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FAMILY SIZE EXPECTATIONS IN EDMONTON:
A COHORT APPROACH

by

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For Lola E. Anderson, a master practitioner of real-world social science.

Family Size Expectations in Edmonton: A Cohort Approach

ABSTRACT

The objective of the thesis is to examine and to explain intercohort differentials in family size expectations and wanted completed fertility in a sample of Edmonton women. Three explanatory perspectives are tested for their capacity to account for variability in intercohort demand for children. These include the structural or normative perspective which emphasizes background differences, the economic utilities model which views fertility decisions as the consequence of maximized utilities based on relative economic preferences for children and a sociological utilities model which places social considerations such as role preferences and values in a utilities context of competing choices.

The data under analysis are from the Growth of Alberta Families Study (GAFS) involving a sample of 1045 Edmonton women of all marital status between the ages of 18 and 54. Interviews were conducted by specially trained interviewers during the period from 19 November 1973 to 15 February 1974. The GAFS survey represents the first major fertility survey to be undertaken in western Canada, the third in the entire country. The sample, a stratified cluster sample based on 1971 Census distributions of mother tongue, was drawn in such a way as to focus specifically on Edmonton's unique ethnic differentials. The GAFS

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ABSTRACT

The objective of this thesis is to describe and to explain intra-cohort differentials in family size expectations and related components of fertility in a sample of Edmonton women. Three explanatory perspectives are tested for their capacity to account for the variability in the expected number of children. These include the [illegible] perspective [illegible] [illegible] [illegible], the minority [illegible] model which treats fertility decisions as the consequence of [illegible] [illegible] based on relating economic preferences for children and a [illegible] [illegible] model which places social [illegible] such as [illegible] and values in a [illegible] context of competing choices.

The data under analysis are from the [illegible] [illegible] Family Study (1973) consisting of a sample of [illegible] women of all marital status between the ages of 18 and [illegible]. Interviews were conducted by specially trained interviewers during the period from 15 November 1973 to 15 February 1974. The [illegible] survey represents the first major fertility survey to be undertaken in western Canada, [illegible] in the entire country. The sample, a stratified [illegible] [illegible] based on 1971 Census [illegible] of [illegible] [illegible], was [illegible] [illegible] as well as to focus specifically on [illegible] [illegible] [illegible] [illegible]. The data

questionnaire included many standardized questions on family size preferences, contraceptive practices, fertility history, attitudes toward fertility matters, background as well as some innovative questions on abortion, role preferences and values.

Examination of intercohort differentials in family size expectations relies on comparative analyses of demand for children among "equivalent birth cohorts", synthetic cohorts developed to minimize "age at marriage bias" (the tendency for age at marriage to vary directly with year of birth and inversely with year at marriage). Demand for children is measured by current wanted births plus additional expected births. The wanted criteria vary with the measure. For the structural perspective, the following variables were examined first separately and then together for their capacity to explain variation in expected and wanted completed family size: cohort, family size of origin, education, residence in youth, religiosity, nativity, religion and ethnicity. Two less realistic and less personal measures of family size preference were also examined in this perspective. For the economic utilities approach, a total of eight variables were examined including cohort, relative income position within cohort, subjective feelings of financial success, ownership of status items (standardized for income and actual family size), proportion of adult years worked, education, willingness to support children at post-secondary level, and implied work years lost through childbearing. For the sociological utilities perspective, seven variables were considered:

cohort, mother role orientation, female role orientation, attitude toward large families, egalitarianism, childbearing motivation, and sex ratio preferences in children.

The primary method of analysis employed throughout the thesis is multiple classification analysis done first with each variable acting separately and then for all non-interactive variables acting together. The MCA is supported by analysis of variance. A second analytic method used in the thesis is multiple regression analysis which is applied to each cohort separately and then with cohort as an independent variable to each measure of family size. The third technique subjected subsets of all variables from the three perspective to stepwise discriminant function analysis to ascertain which variables are of most utility in differentiating among family size preference groups.

The thesis finds that there has been a downward revision in family size norms and wanted fertility with younger cohorts generally indicating smaller expected family size, smaller desired family size and smaller family size ideals than older cohorts. Fertility aspirations are found to be largely a function of cohort membership but also related to family size of the woman's family of origin. Considerable support is found for the explanatory potential of the economic utilities model. Relative preference for consumer durables, as measured by ownership of high status items, and relative income position, once cohort is removed from the analysis, emerge as crucial explanatory variables. Younger cohorts are found to reveal role preferences and values which are

somewhat less traditional than older cohorts but the impact of these variables on family size preferences is overwhelmed by the effects of cohort membership. Comparisons of the relative effects of all variables under consideration in the thesis leads to the conclusion that role preferences and values are of less importance in explaining variability in family size expectations than are cohort membership and economic considerations.

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CHAPTER 1

INTRODUCTION

1.1 The Problem

The objective of this thesis is to examine and to attempt to explain intercohort differences in family size expectations and in the values, norms and attitudes surrounding these expectations for a sample of Edmonton women. The central questions of the thesis are: Are there intercohort differentials in expected family size and wanted completed fertility? If so, how substantial are these differences and why do they occur? Is a downward shift in wanted fertility by cohort discernible? If so, is this shift characterized by a change in the set of values, norms and attitudes which provide the context for making fertility decisions? Can intercohort differences in family size expectations and wanted fertility be explained best in terms of background characteristics, economic factors or social values? Is the pattern of influential factors across cohorts such that support exists for the emergence of a new fertility regime?

In spite of the growing concern with population issues and population policies in Canada, there is actually little known about the fertility behaviour of cohorts, except what can be inferred from following cohorts in successive censuses. Even less is known about the fertility behaviour of Albertans and Western Canadians. Routinely collected micro-data do not permit analysis of the complex macro- and

micro-socio-economic changes which influence the behaviour and attitudes of individuals and couples toward childbearing. It is the intention of this thesis to sort out and attempt to explain, by reliance on intensive micro-data, some aspects of intercohort differentials in fertility behaviour in Edmonton and to examine these differentials within the context of fertility decisions.

1.2 Introduction to KAP Surveys, Family Size Preference Concepts and the Cohort Concept

Although the dynamics of human fertility have perplexed thoughtful people for centuries, scientific interest in the social aspects of fertility has had a short and sometimes undistinguished history. It was not until the 1920's that serious consideration was given to studying the social aspects of fertility behaviour (Westoff, 1956:400). Given the complexity of social context of fertility and the involvement of individual motivations, it is not surprising that attempts at explaining fertility behaviour have been directed largely toward asking people why they behave as they do. So pervasive has been the commitment of social scientists to the survey approach that it has become the institutionalized means of studying the dimensions of human fertility. The instruments, methods of administration and even many techniques of analysis have been honed into standardized form available to researchers throughout the world (The Population Council, 1970). Generally known as KAP surveys (Knowledge, Attitudes and Practices of Family Planning), these standardized research efforts have produced "the most substantial set of comparative social data ever collected across such a range of societies" (Mauldin, 1964: 97). Some fifty-five KAP surveys were undertaken between 1965 and

1970 alone, with at least fifteen more in the planning stages as of 1970 (Population Council, 1970:189).

An integral component of KAP surveys is a series of questions on family size preferences. Typically, data are collected on ideal, desired and expected family size. Quite recently, the concept of intended family size has been added to this list (Ryder and Westoff, 1971:19). These data have been collected for a variety of purposes ranging from population forecasting (Freedman et al., 1959:320-72; Whelpton et al., 1966:371-401) to analysis of the psychological aspects of fertility (Fawcett, 1973; Kiser and Whelpton, 1953). Quite apart from specific research interests, it seems clear that in societies where completed fertility is lower than the biological maximum (most or all known human societies) attitudes toward numbers of children are crucial determinants of fertility performance.

The importance of family size preferences and particularly fertility expectations increases in societies where modern contraceptive technology exists and is used extensively to plan families or to curtail childbearing. "As the proportion of planned families increases, preferences in family size become an important component of fertility behavior. Accordingly, there is an increasing emphasis in fertility research on family size desires, ideals and expectations" (Goldberg et al., 1959:369). Evidence from the 1955, 1960 and 1965 National Fertility Surveys in the United States suggests little change in fertility planning among American couples in general over time although among subgroups of the population, some increase in the proportions with completely planned families is discernible (Ryder and Westoff, 1971:235-241). Some authors have shown that in

Canada, oral anovulents were not extensively used prior to 1965 (Balakrishnan et al., 1975:123). The rapid diffusion of the pill since 1965 could contribute to an increase in the proportion of planned families with a concomitant elevation of the importance of family size preferences in understanding fertility behaviour.

The inclusion in the typical KAP survey of multiple questions on family size preferences is an attempt to sort out the complexities of perceived social norms and personal preferences at both the realistic and the idealistic levels. Conceptually these distinctions may be shown in the following schema:

	Idealistic	Realistic
Social	If all were the way it should be in the world, how many children should the average couple have?	Given the world as it presently exists, how many children should the average couple have?
Personal	If all were the way you would like it to be in your life, how many children would you like to have?	Given your life as it is and is likely to be in future, how many children would you like to have?

Idealistic-social is seldom included in fertility surveys. Realistic-social is typically termed ideal family size. Idealistic-personal is generally equivalent to desired family size. Realistic-personal is taken to be expected family size.

Intended family size, added to the fertility literature at the time of the 1965 National Fertility Study (NFS) in the U.S. represents a further attempt at sharpening conceptual distinctions. It is an effort "both to separate the less realistic desire from the more realistic intent, and to measure directly (by comparing intentions with expectations) the extent to which the respondents

perceive that the number intended might not in fact be achieved, because of inadequate reproductive control or capacity" (Ryder and Westoff, 1971:19). Belief in the greater conceptual clarity of the intended family size concept led to omission of expected family size from many of the analyses of family size preferences in the 1965 National Fertility Study (Ryder and Westoff, 1971:25).

The central focus of this thesis is the realistic-personal dimension of family size orientations, expected family size. It is largely assumed, unless the data indicate otherwise, that respondents' expressed family size expectations represent their subjective realistic reproductive intentions. Despite the arguments of Ryder and Westoff in favour of intended family size, the case could be made that intentions are less realistic than expectations. Although intended family size may possess greater conceptual clarity, expected family size could be viewed as a more realistic resignation to what is likely to happen, as a result of anticipated contraceptive failures or fertility impairment, to the best of intentions. The difficulty in this view is that expected family size is based partly on errors the respondent is likely to make in future and partly on her capacity to anticipate such errors.

The interest in the thesis is cohort patterns of expected family size. The cohort approach to fertility analysis in demography grew out of the need to explain the western reversal of the fertility decline in the late 1940's (Krotki, 1973:16). A solid theoretical concept based on the generation life table, the cohort is defined as a group of individuals experiencing the same demographic event at

approximately the same time. In its life table usage, the cohort approach permits a synthetic or real cohort to be followed through life. The explanatory utility of the cohort in fertility research lies in its inclusion of time as an important variable in fertility behaviour. "The fertility decision made by the couple and the relation of this decision to other decisions made by other couples cannot be divorced from the explicit historical situation in which the couple completes its life cycle" (Turchi, 1975:24).

The advantage of the cohort approach to cross-sectional fertility data is that it permits the researcher to make inferences about social change from data collected at a single point in time. The analysis thus becomes a synthetic longitudinal study. The approach is not without its drawbacks, however. The most crucial criticism is that intercohort comparisons from a single sample are difficult because, by definition, the cohorts are at different ages and different stages of the life cycle at the same time (Ryder and Westoff, 1971:43). This becomes particularly problematic when cohort birth expectations are used for forecasting eventual mean fertility, as was discovered by the original GAF (Growth of American Families) surveys (Ryder and Westoff, 1971:43). The way in which this problem is handled in the thesis, where intercohort comparisons are made with no attempt to forecast, is discussed in Chapter 3. The second drawback of the cohort approach to cross-sectional data analysis stems from the fact that in cohort analyses of single sample data, age and cohort are typically identical, prohibiting the separation of age effects from cohort effects. To some extent, the thesis lives with this problem but methodological efforts to handle it are described in Chapter 3.

The present section has attempted to define the terms of the problem to which the thesis addresses itself. It also has specified the concepts involved in the basic objectives of the thesis and placed these concepts in the context of the fertility literature. Following an introduction to recent Canadian fertility patterns and trends, the remainder of this chapter will discuss the rationale and scope of the thesis concluding with an outline of the thesis.

1.3 Introduction to Canadian Fertility

To place the study in context, it seems necessary to describe briefly some recent salient trends and patterns of Canadian fertility. Table 1.1 shows the historical trends in crude birth rate for Canada, Alberta and Edmonton since 1921. The three series reveal a similar declining pattern up to 1936, an increase to 1956, with a gradual decline since that date. Since 1946, Alberta's crude birth rate has been higher than the national average with the Edmonton rate higher than Alberta's. This is largely explained in terms of the age structure differences in the three populations. Edmonton has proportionately more young married couples than Alberta. Alberta has more than Canada as a whole. Census data on number of children ever born per 1,000 ever-married women are shown in Table 1.2. It is evident that Alberta is below the Canadian average in this measure in 1941 and 1961 and very close to the rate for Canada in 1971. Edmonton, for the two years for which data are provided, falls below the Alberta rate.

Canada, like many western industrial nations, has been experiencing over the past twenty years or so a rather sharp decline

Table 1.1 Crude birth rates* for Canada, Alberta and Edmonton, selected years, 1921-1974.

	Canada[1] (1)	Alberta[1] (2)	Edmonton[2] (3)
1921	29.3	28.1	
1926	24.7	23.8	
1931	23.2	23.6	21.1
1936	20.3	20.4	16.7
1941	22.4	21.7	19.5
1946	27.2	27.6	28.2
1951	27.2	28.8	31.8
1956	28.0	31.1	34.9
1961	26.1	29.2	30.5
1966	19.4	20.9	22.0
1967	18.2	20.6	21.7
1968	17.6	19.8	21.0
1969	17.6	19.8	20.9
1970	17.4	20.0	21.1
1971	16.8	18.8	19.6
1972	15.9	17.7	17.6
1973	15.5	17.4	17.5
1974	15.4	17.4	16.6

*Crude birth rate: Births per 1,000 mid-year population.

Sources: (1) Canada, Statistics Canada, 1976:2 (1921 excludes the Province of Quebec).

(2) Alberta, City of Edmonton, 1974:7 (residents only).

Table 1.2 Number of children ever born* for Canada, Alberta and Edmonton: 1941, 1961, 1971

	Canada[1]	Alberta[1]	Edmonton[2]
	(1)	(2)	(3)
1941	3,341	3,219	
1961	2,987	2,899	2,555
1971	2,775	2,778	2,504

*Number of children ever born per 1,000 ever married women.

Sources: (1) Canada, Statistics Canada, 1973:23-1.

(2) Edmonton, 1971: Canada, Statistics Canada, 1973:26-2 (Core Area).

Edmonton, 1961: Canada, Dominion Bureau of Statistics, 1965:126 (Edmonton area).

in crude birth rate and period fertility. The year 1957 in Canada marked the beginning of the recent decline in crude birth rate. Period fertility began its sharp decline in 1959 (George and Romaniuk, 1971:1). This drop in Canadian fertility has been drastic enough to merit such speculation as to the ultimate outcome of the downward plunge (Henripin and Légaré, 1971:106). Some have termed it a "baby bust" (Grindstaff, 1975) while others have interpreted it as meaning that Canada is on the road to zero population growth (Kayani and Krishnan, 1973; Statistics Canada, 1974a). It has also sparked many enquiries into the causes of the decline which are of basic relevance to the central questions posed in this thesis.

Henripin (1972), in a 1961 Census monograph, contributes substantially to knowledge of fertility trends and patterns in Canada.[1] He analytically accounts for factors behind salient fertility trends at various periods. During the period from 1851 to 1941, the drop in legitimate fertility is the most important factor (Henripin, 1972:61) explaining the fertility decline. It is noted, however, that at various times in this period, variations in nuptiality also play a basic role. Variations in age distribution of women of childbearing age account for little of the fertility trend over this period. For 1941 to 1961 Henripin (1973:65) cites fluctuations in nuptiality as the chief cause of fertility variation, particularly between 1941 and 1951. "Generally speaking, increase in nuptiality accounts for three-quarters of the rise in fertility observed between 1941 and 1951" (Henripin, 1973:65). During the 1951 to 1961 period, the role of nuptiality in fertility increase is much less than in the earlier period but it remains the predominant factor. Variations in legitimate fertility are

also important, though far less so than nuptiality. Age distribution and illegitimate fertility effects are negligible during this period.

Reliance solely on period measures of fertility can result in erroneous conclusions about the nature of fertility trends. Subject to wide fluctuations and short-term changes, period rates seldom reflect the trends and shifts in fertility. This is illustrated in microcosm by the following scenario:

> Suppose for a moment that, due to exceptionally unfavourable economic circumstances, half the couples who would normally have a child during year X (according to the prevailing time-pattern of family formation) delay the birth of this child by one year, without the delay affecting the final intended family size. In these circumstances, fertility rates measured for the year X will be reduced by 50 percent, and any estimate based on statistics collected for that year would give an image of fertility which is lower than the real family size of any cohort of women involved . . . of course, the following year (if we assume that the delay is only one year) period rates would give an overestimation of fertility behaviour, the excess being equivalent to some 50 percent. (Henripin and Légaré, 1971:113)

Despite the obvious advantages of cohort analysis of fertility trends, methodological problems inherent in the cohort approach based on routinely collected data are such that this approach is not commonly used.

Three excellent analyses of cohort fertility trends in Canada have been done, producing somewhat disparate conclusions as to the role of various factors in fertility fluctuations. In the first of these, Henripin (1972:30-35) compares period and cohort fertility up to 1965 in the former case and up to cohorts born in 1930 in the latter case. This comparison is shown in Table 1.3 and requires no detailed discussion here. It is apparent that completed cohort fertility has

Table 1.3 Total fertility rate (period rate), 1902 to 1965, and fertility of cohorts born from 1874 to 1930, Canada

		Number of births per 1,000 women		
Year of birth of cohort[a]	Year of current rate	Completed cohort fertility	Total fertility rate[b]	Relative difference[c]
1874	1902	4,118	4,800	16.6
1879	1907	4,067	4,740	16.5
1884	1912	4,007	4,620	15.3
1889	1917	3,891	4,260	9.5
1894	1922	3,714	3,860	3.9
1899	1927	3,444	3,319	-3.6
1901	1929	3,298	3,217	-2.4
1902	1930	3,235	3,282	1.4
1903	1931	3,191	3,200	0.3
1904	1932	3,138	3,084	-1.7
1905	1933	3,082	2,864	-7.1
1906	1934	3,042	2,803	-7.8
1907	1935	3,009	2,755	-8.4
1908	1936	2,971	2,696	-9.2
1909	1937	2,944	2,646	-10.1
1910	1938	2,916	2,701	-7.4
1911	1939	2,891	2,654	-8.2
1912	1940	2,896	2,766	-4.5
1913	1941	2,912	2,832	-2.7
1914	1942	2,943	2,964	+0.7

Table 1.3 "continued"

Year of birth of cohort[a]	Year of current rate	Number of births per 1,000 women: Completed cohort fertility	Total fertility rate[b]	Relative difference[c]
1915	1943	2,966	3,041	+2.5
1916	1944	2,991	3,010	+0.6
1917	1945	3,029	3,018	-0.4
1918	1946	3,074	3,374	+9.8
1919	1947	3,120	3,595	+15.2
1920	1948	3,164	3,441	+8.8
1921	1949	3,201	3,456	+8.0
1922	1950	3,249	3,455	+6.3
1923	1951	3,277	3,503	+7.0
1924	1952	3,309	3,641	+10.0
1925	1953	3,331	3,721	+11.7
1926	1954	3,333	3,828	+14.8
1927	1955	3,352	3,831	+14.3
1928	1956	3,386	3,858	+13.9
1929	1957	3,424	3,925	+14.6
1930	1958	3,476	3,880	+11.6
	1959		3,935	
	1960		3,895	
	1961		3,840	
	1962		3,676	
	1963		3,694	
	1964		3,540	
	1965		3,192	

[a]From 1874 to 1899, these are women born over the course of the five-year period which centers on the first of December of the year preceding the indicated year. The other cohorts were born over the course of the two-year period centering on January 1 of the year indicated. The rates for the years 1901-1903, 1905-1908, 1910-1913, 1915-1918 and 1920-1922 have been interpolated. [b]DBS, Vital Statistics, 1965, p. 72. [c]In percentages as a ratio of cohort rates.
Source: Henripin, 1972, Table 2.4, p. 33.

been increasing since the 1911 cohort completed its childbearing. It is also significant that the 1930 cohort, if these estimates based on the 1961 data are to be believed, gave birth to as many children as did the 1893 cohort. A further conclusion drawn from Henripin's analysis, which unfortunately does not extend into very recent times or to cohorts born in the 1940's, is that "since 1965 . . . period rates no longer represent an overestimation of fertility in relation to the actual behaviour of women" (Henripin 1972:34). Rather, concludes Henripin, it seems that the decline in period fertility accentuates the decline in cohort fertility beginning with the 1930 cohort. Henripin explains this by suggesting that couples have postponed childbearing to some extent.

Henripin and Legare (1971) and George and Romaniuk (1971) extend Henripin's analysis to include more recent cohorts and more current rates of period fertility. Henripin and Legare (1971) base their analysis on a comparison between completed fertility of ever married women for cohorts born from 1903 to 1939 and a period-type measure of completed fertility for married women covering calendar years 1938-1967, based on a combination of period parity-progression ratios computed on the assumption of a fixed distribution of intervals between marriage and first birth and between successive births. The latter measure is termed the "index of current marriage fertility" (Henripin and Légaré, 1971:113). These authors include estimates up to the 1935 cohort. They project the completed cohort fertility curve to include the 1939 cohort (Henripin and Légaré, 1971:115). The central findings of this analysis are:

(1) from 1946-1961, the current index exceeded cohort fertility by some 17 percent, due largely to changes in birth timing where couples reduced the intervals between marriage and first births and between successive births;

(2) since 1962, cohort fertility exceeds the current index by 21 percent with widening birth intervals and a substantially greater decline in period marital fertility (32 percent from 1959 to 1967) than in fertility for corresponding cohorts (6 percent for cohorts born in 1931 and 1939).

The conclusion reached by Henripin and Legare is that "most of the recent decline in period rates is explained not by a reduction in the size of family, but by a change in the timing of childbearing" (Henripin and Légaré, 1971:116).

George and Romaniuk (1971) also compare period and cohort fertility rates in an attempt to explain the recent decline in period fertility with different conclusions. These authors calculate the gain in the rising phase of cohort fertility (from cohort 1910-11 to cohort 1929-30) as .71 and of period fertility (from 1937-1959) as 1.30. The loss for the declining phase for cohorts (from 1929-30 to 1942-43) is .89 and for periods (1959 to 1969) is 1.54 (George and Romaniuk, 1971:12-13).

> From these figures the impact of family size on period total fertility can be estimated at about 55 percent (0.71/1.30) for the rising phase and at 58 percent (0.89/1.54) for the declining phase of the cycle of fertility. The remaining 45 and 42 percent, give the extent of the contribution by the age pattern of fertility for the rising and declining phases,

respectively (George and Romaniuk, 1971:13).

The reasoning on which this conclusion rests, not elaborated by George and Romaniuk, is that cohort fertility or completed fertility at the end of childbearing is purely the result of family size. Period fertility, on the other hand, the change in which provides the denominator of the ratio, is a mixture of change in completed family size with the residual representing changes in fertility due to timing of births.

The interest in this thesis lies in examining the degree to which completed wanted family size has changed as reflected in cohort fertility patterns in Edmonton. The focus is on changes in family size, the factor which accounts for the major part of the change in period fertility according to George and Romaniuk (1971) and only a minor part according to Henripin and Légaré (1971) and Henripin (1972). Changes in birth timing are the topic of another thesis based on the same data[2] so will not be of principal interest here. It is hoped that by reliance on more intensive data than have so far been utilized in analyzing Canadian cohort fertility patterns that this thesis will contribute to the growing literature directed toward explaining recent fertility patterns and trends in Canada.

1.4 Rationale and Scope of the Thesis

It is undeniable that man, largely through technological innovation, has gained greater control over his environment than he had previously. This has been termed a "change from 'fate' to 'control orientation'" (Liu, 1967:xx). It would seem that the implications of this changed perspective are particularly profound in family life and

fertility. It is certainly clear that in North America in the mid-1970's, completed family size for most couples is the result of a conscious decision to limit fertility. It now seems to be fairly widely accepted that fertility is increasingly becoming a matter of constrained choice.

If fertility is seen as a controlled outcome, as opposed to a fateful outcome, then fertility decisions are of fundamental relevance to understanding fertility behaviour. The social and economic factors impinging on these decisions become more essential to explaining fertility behaviour than earlier when fertility decisions were less easily effected. To fully comprehend modern fertility patterns, values, norms and attitudes of prospective parents toward childbearing must be considered as crucial determinants of actual fertility. More serious attention is deserved as well to the sociological significance of the decision-making process itself. As fertility behaviour becomes increasingly divorced from uncontrolled forces, the multiple choices made by couples which contribute to ultimate fertility performance become essential focal points in any attempt to explain fertility.

If all this appears self-evident, then it should be noted that, with few exceptions, demographic efforts at explaining fertility have not adequately dealt with the role of values in fertility behaviour (Beaver, 1975:42; Davis, 1963:345). To some degree, this may be a function of demography's infatuation with the aggregate, often to the exclusion of the individual. It also may be related to demography's traditional eschewal of theory of the sociological variety (Vance, 1952; Yaukey, 1969). Most often, demographic explanation of fertility is phrased in terms such as "the fertility response," "the population

factor," and "the traditional fertility pattern." These phrases may be well-suited to the demographer's interest in population phenomena viewed in terms of aggregate patterns and differentials. So strong is the pull toward aggregate explanation, however, that fertility survey data which often include individualistic and motivational responses are typically collapsed into aggregates to answer structural questions. Fertility behaviour is explained without reference to any intervening links between the individual and the aggregate response except the elusive idea of group membership.

With the exception of Davis' (1963:361) pioneering effort to point out that demographic changes are mediated through social organization or individual cultural interpretations rather than impinging on aggregates as unitary forces, demography has had to wait for another discipline to come to grips with the role of the individual in demographic change. It was economics that established a theoretical explanation for how micro-forces are translated into individual fertility decisions. The economic model, based on the theory of consumer choice, is utilized in the thesis as one approach to the explanation of fertility behaviour. The model is adapted and expanded to include sociological components in order to examine fertility behaviour in its more complete contextual setting.

In addition to the need to study modern fertility behaviour in the context of choice, there seems to be a growing interest in understanding the dynamics of fertility change. With emerging concern in Canada about population issues and thought devoted to the development of a population policy, a study done in a major Western Canadian city which focuses on the cohort patterns of fertility determinants

may be particularly timely. Since aggregate fertility remains the only major component of population change not yet subjected directly to effective policy control, it is often seen as the one source of uncontrolled population growth in the Western world. Given increasing attention to the role of population in economic growth and environmental determination, it is likely to become a future policy target area in Canada and elsewhere in the Western world. Increased understanding of the determinants of family size and how these determinants are changing from older cohorts to younger ones could ultimately lead to the development of policy approaches which would encourage politically and socially palatable trends in future child-bearing without the necessity for extreme measures.

In sum, the concern of the thesis is the reproductive goals or family size expectations of childbearers in their economic and social context. In particular, the interest is in differentials in wanted completed family size by cohort, with emphasis on the element of constrained choice involved in wanted fertility. The factors involved in the decision to want a particular number of children are examined in economic and sociological frameworks as well as by the more traditional structural mode of analysis. The methodological approach taken in the thesis and the research design of the study from which the data are drawn permit testing not only of economic and sociological hypotheses about the factors impinging on fertility decisions but also of hypotheses about changes in childbearing attitudes and behaviour.

1.5 Outline of the Thesis

Chapter 2 extracts from the vast literature on fertility differentials theoretical and basic empirical approaches to the explanation of differentials in expected family size. The central hypotheses under examination are developed at the end of Chapter 2. In Chapter 3, the research design of the Growth of Alberta Families Study is described. As well in this chapter, the concepts to be used in the thesis are defined operationally and the techniques of analysis described. Chapter 4 examines, by means of a traditional demographic approach, intercohort differentials in the normative range of fertility. Interrelationships among the various measures of family size preference are considered in addition to the effect of various background variables on intercohort differentials in expected family size and wanted fertility. In Chapter 5, its capacity to explain intercohort differentials in wanted fertility is tested. The utilities model is adapted and expanded into a sociological model in Chapter 6, which then is tested also for its power to explain intercohort patterns. In the latter part of Chapter 6, the explanatory power of each of the three models examined in previous chapters, background, economic and sociological, are compared. Chapter 7 provides a summary of the thesis with conclusions, implications and suggestions for future research.

CHAPTER 2

EXPECTED FAMILY SIZE DIFFERENTIALS:

THEORETICAL AND EMPIRICAL APPROACHES

2.1 Theoretical Approaches to Explaining Expected Family Size Differentials

It would probably not be a surprise to demographers, nor to theoreticians, for that matter, to say that demographic approaches to explaining fertility, generally speaking, have not been strongly grounded in theory. It has been said that demographers were engaged in theorizing in the middle and late 1950's, a time which saw the emergence of the Davis-Blake (1956) framework of intervening variables and the Spengler-Duncan (1956) compendium of population theory and policy, but were distracted into empiricism when the fertility survey approach was applied on an excitingly large scale (Yaukey, 1969:100). Yaukey continues by pointing out that it is only relatively recently that concern has been expressed about the overly narrow focus of fertility research which fails to give much credence to theory (Davis, 1967; Hauser, 1967).

Many demographers would support the view expressed by Davis that advance in demography is generally not made through attempts at developing theory but through the pursuit of particular problems with all the conceptual and empirical tools that can be found (Davis, 1959:

312-314). This has been interpreted in the context of the ubiquitous fertility survey, as explanation by reference to structural differentials, an approach which holds a central place in demography. Stinchcombe (1968:78), in the course of a discussion of the nature and types of theoretical explanation, describes this type of demographic explanation as "the simplest and most primitive of complex causal structures in social explanation." Goldscheider (1971:226), on the other hand, holds that examination of structural differentials represents a fundamental way of locating determinants of causal factors involved in the processes under study. To Goldscheider's way of thinking, the study of sub-group differentials could be seen as the first step in the formulation of a comprehensive explanatory theory.

Explanations of differentials in family size expectations are a basic aspect of the empirical tradition of massive fertility surveys. Data on family size expectations typically are available only from these surveys, although they are now being collected routinely in the United States as part of the Current Population Surveys (U.S. Bureau of the Census, 1972). Possibly for this reason, explanations of differentials in family size expectations have been couched largely in structural terms. The role of background variables such as religion, education, income, occupation, female labour force status, race (in the U.S.) and recently ethnicity and nativity (in Canada) has been emphasized. Research reports of all major KAP surveys abound in findings of differentials, with expected family size typically receiving special emphasis. A review of the major findings of these studies is presented in Section 2.4.

Despite the overwhelming emphasis in the demographic literature on explanation through structural differentials, there are hints of alternative or supplemental explanations of expected family size variation. It is probably significant that many of these non-structural approaches have their origins in sociology or economics rather than demography. Others are based solidly on the structural approach but delve into the theoretical basis for structural differentials relying on sociological or economic concepts. The four theoretical explanatory frameworks to be elaborated here include: the normative approach, the socialization approach, the utilities approach and the social change approach.

The normative approach to explaining variation in expected family size is far from an integrated theoretical framework. This approach stems directly out of the vast fertility survey literature which consistently reveals the existence of a normative order regulating family size within a specified range (Balakrishnan et al., 1975; Blake, 1974; Bumpass and Westoff, 1969; Freedman et al., 1959; Freedman et al., 1965a; Henripin and Laipierre-Adamcyk, 1974; McLaughlin, 1974; Ryder and Westoff, 1971; Whelptin et al., 1966; and Westoff et al., 1957). Basically this approach views expected family size within the context of normatively defined reproductive goals or rationalizations. Family size preferences are viewed along a definite scale from ideal to desired to expected to actual parity.

The normative approach could be seen as an attempt, although only a partial one, to render explicit an aspect of the model which serves as an implicit guide in fertility survey research. That is, couples establish a reproductive target, which is influenced by

perceived normative pressures, and then aim toward it more or less successfully. The reproductive target notion has been criticized by several demographers (Goldberg, 1960; Mishler and Westoff, 1955; Namboodiri, 1974; and Ryder, 1973) as being fallacious on two counts. Firstly, couples may make fertility decisions sequentially. Secondly, people may have no reproductive targets at all which guide their fertility behaviour. The advantage of the normative approach is that although it leaves aside many questions basic to the existence or non-existence of reproductive goals, it permits examination of the interrelationships among the range of measures of family size references. By this means, some assessment can be made of the role of perceived norms of family size in the determination of family size choices. Whether these choices are realistic representations of reproductive targets remains a question to be answered by means of another explanatory model.

An essential consideration in the normative approach is that in examination of the scale of family size preferences, statements may be made about the existence and nature of a normative order which governs fertility behaviour. It is not possible, however, to ascertain the actual mechanisms involved in forming notions of family size, by means of this approach alone. For example, it may be that women develop their ideas of how many children they want in terms of some conception of what is the ideal family size, determine their reproductive choices in terms of that desire and then proceed to bear children in accordance with the choice made. It may be just the opposite, however. Women may have a given number of children which becomes the stated number they expect and then report that number as the number they desire and

finally equate their experience with that of the average family (Ryder and Westoff, 1971:30). In either case, the normative approach seems to afford the opportunity to explain expected family size differentials from the viewpoint of an established theoretical concept in sociology, the cultural norm.

A second alternative to the structural explanatory approach, intimately allied with the normative approach is also based on the theoretical literature of sociology. This approach views the establishment of personal family size expectations in terms of value socialization. Espoused primarily by Westoff and Potvin (1967), the socialization approach takes the position that family size preferences reflect norms to which individuals are socialized early in life in much the same way that children learn other values and behaviour patterns. Following Westoff and Potvin (1967:122-124), who have developed what they call a "theory of ideal family size formation," family size in the couple's families of origin, reference groups with whom the woman, in particular, identifies in late adolescence and early adulthood, and the social context of the childhood environment are all important in the development of family size preferences and expectations.

The central advantage of the socialization approach is that it elaborates, to some extent, much of what remains implicit in the structural approach. It provides some theoretical mechanisms by which subgroup membership is translated into behaviour. Subgroup differentials may be viewed, in accordance with the socialization approach, as reflections of broad adult reference groups which provide reinforcement for individual family size choices. Alternatively major subgroup affiliations, having the characteristic of typically not changing over

the course of one's life, may be seen as continuities of early childhood socialization pressures. By placing the explanation of fertility in the realm of social process, shaping and influencing attitudes, beliefs and actions by which parents operate as well as children, this approach has the additional advantage of drawing the researcher's attention to the possibility of generational change or continuity in family size orientation.

The utilities approach to explaining fertility differentials, sometimes called the new home economics or the economic model of fertility behaviour, represents a recent attempt by economists to apply the microeconomic theory of consumer behaviour to the analysis of human fertility. "Their interest has been spurred in part by the relative lack of success that sociologists and demographers have had in explaining the determinants of family size" (Turchi, 1975:1). Essentially, the utilities model in its various guises, takes the view that fertility analysis, in twentieth century North America, requires a model which accounts for the study of resource allocation decisions made under constraint. The economic approach basically sees childbearing decisions in terms of utility maximization. A person or couple, presumably acting rationally, will only decide to have a child if the expected value of that child (roughly equivalent to marginal utility) is perceived as equivalent to or greater than the cost of the child (equivalent to marginal cost). A clear exposition of these basic notions and the application of them to sociological problems is provided by McKenzie and Tulloch (1975).

Although the relation of economic factors and fertility has been long recognized (Lorimer, 1954:248-249), with even Malthus granting

credence to the importance of standard of living to population growth (Malthus *et al*., 1960:40), it is only recently that economic theory has been fully brought to bear in fertility analysis. The origins of this recent economic approach to explaining fertility are generally traced to Becker (1960). In fact, the path-breaking occurred earlier in a book by Leibenstein (1957:159-165) in which it is suggested that the demand for children may be examined in light of several types of utilities and types of costs.[1] Becker's (1960) proposal, in contrast, applies in a rather straightforward way the theory of demand for consumer durables to the demand for children.

Since Leibenstein and Becker, the fertility literature has experienced a rather sensational flourish of criticisms, counter-criticisms, embellishments, elaborations and applications of other aspects of economic theories to fertility behaviour. The general conclusion, which is far from unanimous, is that the utilities model holds great promise in explaining fertility behaviour. More recent work has moved out of economic theories of consumer durables and into theories of "household choice" (Easterlin, 1969; Schultz, 1973, 1974; 1975; Sheldon, 1973) and the incorporation of sociological principles and concepts in the economic model (Scanzoni, 1975; Turchi, 1975). Evidence of the profundity of the effects of the economic or utilities approach may be found in the Turchi (1975) book which has as one of its explicit goals, "to present in rigorous fashion an integrated socio-economic theory of fertility that allows noneconomic determinants to interact in a plausible way with economic determinants" (Turchi, 1975: 2). The Schultz (1975) compendium provides further evidence of the impact of economic theory on population with Nerlove's "Toward a New

Theory of Population and Economic Growth" and Willis' "Economic Theory of Fertility Behavior."

The central advantage of the utilities approach to explaining fertility rests in its solid grounding in theory. It permits analysis of fertility behaviour in the context of a decision framework of scarce or at least limited resources. Although not without drawbacks, the utilities approach, particularly with the very recent incorporation of sociological components verges on developing into a comprehensive theory of fertility. A major goal of the thesis is the testing of a version of the utilities model with economic dimensions as well as sociological for its power to explain intercohort fertility differentials. The details of the models to be tested with Edmonton data will be developed in the introductory sections of Chapters 5 and 6 respectively.

The social change approach to explaining differentials in expected family size, like the normative and socialization approaches is not yet a solid theoretical explanation. Derived directly from the notion of the change in perspective over time from fate to control outlined in Chapter 1, this approach is based on the observation that modern societies have experienced a "revolution in fertility control values" (Bumpass, 1973:67) which has brought about what Bumpass terms a "new fertility regime." A major contention of this approach is that the rapid diffusion of the pill has contributed to a fundamental change in the gestalt surrounding fertility decisions. Central to this notion is that it is not pill-use specifically but the changed rules under which fertility decisions are made, brought about by the possibilities of effectively controlled childbearing, that are critical to the emergence of a new fertility regime. This approach has not yet

been subjected to extensive empirical testing. Scanzoni (1975) tests aspects of it using U.S. data.

This section represents an attempt to describe in abbreviated form the major theoretical approaches to the explanation of differentials in expected family size. Following a discussion of some of the central criticisms of these theoretical approaches, the basic orientation of the thesis will be presented. The remainder of this chapter will discuss the analytic approach to expected family size, review relevant empirical findings, offer ctiticisms of these findings, and will conclude with the development of the guiding hypotheses of the thesis.

2.2 Criticisms of Theoretical Approaches to Explanation

A recurrent problem in the attempt to explain demographic phenomena is the paucity of unified exploratory theories. This is no less problematic in fertility studies where the impressive set of insights into fertility determinants guided by analyses of differentials both impedes development of systematic theory, in providing exciting distractions in the empirical world, and calls out for theoretical binding. Demographers have accused themselves of paying heed to too many masters in their enthusiasm to collect fertility data throughout the world (Ryder, 1973:496). It is unfortunately true that masters concerned with policy decisions often have more interest in data collection than inclination to invest in development of theoretical frameworks, a principle which has contributed undoubtedly to the fertility researcher's immersion in multi-purpose empirical surveys.

It seems fairly evident that structural explanations of fertility differentials, even if viewed within a normative context and as part of a social process, are becoming increasingly insufficient. In part, the reason for this is incompleteness of the theoretical framework. Traditional demographic explanations of fertility attempt to relate social and demographic factors directly to fertility behaviour without the benefit of intervening links. They, therefore, provide little insight into the mechanisms by which group membership is translated into fertility behaviour. Even reference to perceived norms and socializing influences ignores much of the context of fertility decisions and actions.

Changes in fertility and fertility-related behaviour, which paradoxically have come to light largely through the findings of fertility surveys, have added to the increasing explanatory incapacity of traditional demographic approaches to fertility analysis. The differentials which in the past have been given much credence, never impressive statistically, are disappearing as we increasingly converge in our fertility behaviour. Turchi (1975:14) notes that this is particularly true for analyses of direct relationships between social norms and fertility. Ryder (1973:905) suggests that "whatever the cross-sectional differentials, the level of fertility has gone up for every subgroup and then it has come down for every subgroup and we are far from an explanation of why that happened or whether it will happen again."

The economic approach to explaining fertility represents a first attempt in the development of a comprehensive theory of fertility. The early proponents of this approach were criticized on grounds

basically similar to those that have traditionally been used by non-economists for undermining the arguments of economists. The essential criticisms include assuming a greater degree of rationality than actually exists and discounting the social context of reproduction. Both of these tacks are taken by Blake (1968) in her extensive critical comments on the original formulation of the economic model by Becker (1960).

In more specific terms, Blake (1968:15) questions the basic analogy of children to consumer durables on several grounds. First, she asserts that "there is no direct control over the acquisition of wanted cars, refrigerators and houses" (Blake, 1968:15). Second, the known "normative irrevocability" of becoming parents must be assumed to enter the model, rendering the child demand model substantially different from the consumer durable model. Third, public support favouring the dominance of family values over economic rationality contributes to the creation of social institutions which prevent the inhibition of reproduction by economic factors (Blake, 1968:16). Last, the economic model which views child demand as analogous to demand for consumer durables ignores the idea that parents are producers as well as consumers of children, with consequent potential for production problems affecting child demand decisions as well as expected utilities.

Blake's criticisms, as well as those of Okun (1960) and Duesenberry (1960) have led to a dismissal of Becker's (1960) original formulation of the economic model as essentially fallacious. Even if the direct analogy of children to consumer goods has proved difficult in reality, the notion that fertility behaviour, as other social

behaviour, has a distinctly rational component which may be explored in economic terms has been enticing for those who would explain the modern fertility pattern. The economic model consequently has been broadened. Among the first attempts at application of utilities functions apart from the theory of consumer durables was Mincer's (1963) focus on opportunity costs to women of childbearing and childrearing. This was followed by a more sophisticated theoretical exploration of the place of an additional child in the family's time budget as well as income budget (Becker, 1965; Ben-Porath, 1973; DeTray, 1973; Michael, 1973; and Willis, 1973). Efforts of late have been devoted to the explanation of population change in terms of the economic approach (Easterlin, 1969; Schultz, 1973; 1974; 1975). The most recent development is the emergence of what could be called sociological utilities models which attempt to discredit one of the central criticisms of the original economic model, its eschewal of the social context of reproduction (Scanzoni, 1975; Turchi, 1976).

The economic approach may have relevance as well outside the modernized world where it has been assumed that fertility is less of a question of rational choice. Simon, in an excellent review of the rational nature of childbearing in a cross-cultural context, has pointed out that "fertility is everywhere clearly subject to at least some rational control . . . and hence other objective forces influence behaviour to a significant degree, everywhere and always" (Simon, 1974:14). Some authors (Germaine, 1975; Moen, 1976) are beginning to show the potential of the economic model to explain fertility in the Third World.

The clear advantage of an economic model which incorporates

sociological factors is that the rational choice aspects of fertility behaviour may be analyzed simultaneously with the social and cultural influences on fertility. Separation of these two sets of factors, largely by artificial disciplinary walls, seems unwarranted. It is for this reason that the work of Scanzoni (1975) and Turchi (1976) are welcome newcomers to the rapidly growing literature sometimes called "the new home economics." The efforts of these two authors represent a first major step toward meeting the earlier call for development of some theoretical framework which incorporates social considerations into the economic approach (Easterlin, 1969:150).

This section and the preceding one have attempted to summarize the literature on theoretical approaches to expected family size and the central criticisms of these approaches. The next section will introduce the analytic uses of expected family size. Following a review of the empirical literature and a brief discussion of some criticisms of the empirical approaches, theoretical orientations and empirical findings will be brought directly to bear on the thesis problem in the last section of this chapter.

2.3 The Analytic Approach to Expected Family Size

Analytically, expected family size data have been used principally in two ways: (1) as a means of extending cohort fertility to make birth projections (Freedman *et al.*, 1959); and (2) as a surrogate for completed family size in studies of differential fertility (Mishler *et al.*, 1955). The first approach was used in the original Growth of American Families Study (GAF-I) (Freedman *et al.*, 1959), which had as one of its purposes the improvement of fertility forecasts. The

method employed has been called "daring in its simplicity" (Ryder and Westoff, 1971:37), that is, to ask each woman to make her own forecast of her own fertility. Errors were anticipated at the individual level but it was thought that aggregate forecasts would prove reasonable. Hindsight shows that the GAF-I aggregate forecasts of mean eventual parity, based on statements of expected family size, were on the whole underestimates (Ryder and Westoff, 1971:43). Here, of course, it must be emphasized that much estimation of additional factors such as nuptiality and age pattern of fertility is required in estimating final parities (completed family size) for various cohorts to achieve forecasts of mean eventual parity of all women. It has been largely concluded that projections of fertility rates per se on the basis of expected family size data collected at a single point in time are not likely to be highly accurate.

The second analytic approach to expected family size is the more common one. The basic method consists of deriving indices of completed fertility experience on the basis of either cohorts for time series data or periods for cross-sectional data. For time series data, cohorts typically are defined by both age and time. Retrospective histories by age cohort generally characterize cross-sectional data. The purpose in computing surrogates of completed family size in both cases has been to examine differentials in the fertility measure within the normative context as outlined in Section 2.1. Several ways have been devised to analyze, in this manner, completed fertility or surrogate completed fertility which have relevance here. These include the cohort approach, the expectations approach and the synthetic cohort approach.

The cohort approach consists of analyzing the fertility experiences of actual cohorts. The challenge stems from the fact that only the oldest cohorts have actually completed their fertility. As Ryder (1973:499) suggests, given that "the events summarized occurred several decades ago (and what may have happened then may be ill-remembered, or deftly reconstructed) [and] since the maximum interest in the study is generated by its description of contemporary experience . . . the result is unlikely to make headlines." This problem led to the expectations approach, a simple appending of the respondent's stated additional expected births to her actual family size to derive an index of completed family size. Clearly, the result is a mixture of past experience and anticipations which may or may not allow for future errors. "It would not be much of a parody to claim that the typical respondent recounts to us a catalogue of her past follies and then swears that her future will be free of error" (Ryder, 1973:499). The third approach is the synthetic cohort approach. Essentially, the experience of women at various stages of the life cycle are accumulated and are considered for analytic purposes to be time series data. The difficulty arises from the highly variable time pattern of fertility among successive cohorts and the distortion of reality resulting from the assumption of continuity.

A new method combines the three approaches. Ryder and Westoff (1973), in a research paper prepared for the U.S. Commission on Population Growth and the American Future, attempt to solve some of the conceptual difficulties described above by separating wanted births from unwanted births. Assuming that the largest component of future expectations is births that are wanted, actual births that are reported

as unwanted are eliminated prior to adding in future expected or intended births. The result is a somewhat purer index of wanted completed family size than is obtained by direct application of the expectations approach. It has the additional advantage of eliminating from analysis that part of actual fertility, unwanted, which has been most confounding in analyses of intercohort differentials because of its direct variation with age or reproductive life stage.

The index is then analyzed by cohorts which are neither birth cohorts nor marriage cohorts but a combination of both called "equivalent birth cohorts" by Ryder and Westoff (1973:474). The advantages of employing "equivalent birth cohorts" include at least partial solution to the perpetual problem in analysis of differentials in expected family size: that age at marriage varies inversely with and duration of marriage varies directly with expected family size. A second advantage is that the problem of any two cohorts being the same age at different times is partially eliminated by having age and cohort not completely synonymous. The "equivalent birth cohorts" to be used in the thesis are developed in Chapter 3.

2.4 Review of Relevant Empirical Literature on Expected Family Size

It is far beyond the possibilities of this thesis to review in any comprehensive sense the vast empirical literature on expected family size differentials. It has been mentioned already that questions on family size expectations constitute standard fare in any fertility survey, in addition to being collected on a routine basis in the U.S. A comprehensive review of all these cross-cultural findings would entail a major bibliographic undertaking with a questionable result

since the findings from many cultures have little relevance to the Canadian context of interest in the thesis.

This section intends to systematically draw out of the vast literature findings, derived from the North American experience, which have direct relevance to the problem posed in this thesis. Following a discussion of the American empirical findings, some attention will be given to the sparser Canadian findings.

2.4.1 American Literature

It has been claimed that more is known about the fertility of the American population than about that of any other nation (Freedman, 1962:211). Clearly, "a substantial part of our knowledge of American fertility is based on the results of a series of national surveys" (Ryder, 1973:495). Given the abundant data on fertility in the U.S. and the resourcefulness of American demographers in analyzing these data, it seems appropriate to review some of the basic U.S. findings on expected family size relevant to this thesis.

Most of the American findings on expected family size, like empirical findings from other parts of the world, are based on examination of structural differentials in fertility survey data. The first fertility survey in the world was conducted in the U.S. in 1941. Information was gathered from 1444 "relatively fecund" couples in the city of Indianapolis. The sampling criteria, more restrictive than in most subsequent studies, called for both husband and wife to be native white Protestants with eighth grade education or more, married during 1927-29, neither previously married, with the husband under 40 years old and the wife under 30 at the time of marriage and residing in

a large city for most of their married lives (Whelpton and Kiser, 1958). This study, generally known as the Indianopolis Study, differs from its successors in three significant ways: (1) it sets out to test a series of clearly defined hypotheses; (2) it focuses largely on individual motivations with respect to fertility; and (3) it emphasizes the husband's as well as the wife's fertility aspirations (Kiser and Whelpton, 1953).

The dependent variables in the majority of the 23 Indianopolis hypotheses were proportion of couples practising contraception effectively and the size of planned families. Variations in expected family size and intercohort differentials in completed family size were not of specific interest in the Indianopolis study. Nonetheless, some of the Indianopolis findings are of relevance to the thesis problem. With respect to socio-economic status it was found that (1) the higher the socio-economic status, the higher the proportion of couples practising contraception effectively and the larger the planned families; (2) the effective practice of contraception is directly associated with economic security but the greater the feeling of economic insecurity, the smaller the planned families; and (3) the larger the gap between actual and desired levels of living, typically greater for those in lower socio-economic groups, the lower the proportion practising effective contraception and the larger the planned families (Kiser and Whelpton, 1953:97-99). With respect to childhood socialization influences, methodological difficulties and small numbers in certain categories, like rural in-migrants, prevent conclusions which could have been of relevance to the thesis problem. Attempts to test rationality

of behaviour by measuring tendency to plan in general, interest in religion and adherence to traditions, which could have had direct bearing on the issues addressed in this thesis, were thwarted by the confounding influences of socio-economic status (Kiser and Whelpton, 1953:104-105).

The Detroit Surveys of 1955 and 1958 focused on the underlying differences in family activities which could provide the basis for fertility differentials previously attributed to socio-economic status. These studies, focusing on young married women of all parities, also had an interest in family size preferences and in particular, family size expectations. The essential findings of the Detroit studies are: (1) for women, the influential set of conditions in family size decisions are family activity variables, while for men status variables are critical; (2) for couples with small families (0 to 1 child), the variable with the greatest influence on number of children wanted is the proportion of leisure time activities of the wife that are home-centered; and (3) for couples with three or more children, status is the important influence on wanted family size (Goldberg, 1958). The salient contribution of the Detroit studies to the fertility literature is the placing of family size preferences and expectations within the framework of an analysis of family roles rather than focusing only on structural differentials. It is surprising that this approach was not reinitiated until the 1970's with the advent of the new economic model (Schultz, 1973; 1974; 1975; Sheldon, 1973; and Turchi, 1975) and the sociological model (Scanzoni, 1975).

The Detroit studies made specific analytic use of expected family size data (Goldberg et al., 1959). On the basis of re-interviews

in 1958 with women first interviewed in 1955, a very small net error in 1955 stated family size expectations was found. "A net error of virtually zero results from a series of upward and downward revisions in expected number of children by the individual women" (Goldberg et al., 1959:377). Goldberg and his associates confirm the earlier finding of Westoff et al. (1957) that predictive accuracy of stated family size expectations is very likely a function of experience in the domestic role. It is concluded by Goldberg et al. (1959:381) that "the primary determinants of the accuracy of fertility predictions lie in family cycle characteristics."

The first Growth of American Families study (GAF-I), a 1955 national study, was an offspring of the Indianopolis study. Based on a sample of married white women aged 18-39 living in private households with their husbands present or absent due to military service (Freedman et al., 1959:10), GAF-I set out to "learn more than we know now about the factors which determine the number of children that married couples have and the time when they have them" (Freedman et al., 1959:v). Specifically, GAF-I sought to obtain baseline demographic and social data on a nationwide scale that would enable predictions of future fertility trends and to estimate the incidence of sterility, fecundity impairment and contraceptive use in the population (Freedman et al., 1959:8-9). To achieve its primary purpose of improved prediction, GAF-I relied heavily on individual women's own forecasts of their future fertility, their stated expected completed family size.

Respondents were asked in GAF-I how many children they had already borne and how many they expected to bear in the future (Freedman et al., 1959:216). In addition, they were asked how certain they were

of their expectations (Freedman et al., 1959:479). If they were not certain, they were asked for the smallest and largest number of births they thought they would have. On this basis, maximum, minimum and most likely expectations were computed. The majority of respondents expected 2, 3, or 4 births in all. In spite of some earlier scant evidence suggesting that there exists a rather small correlation between birth expectations of the bride and actual birth experience recorded subsequently at the individual level (Freedman et al., 1959:218), the GAF-I researchers concluded that stated birth expectations of their respondents were fairly realistic. This conclusion rests on the observation that approximately two-thirds of all expected children were already born at the time of the survey. Most women, it was assumed, had had considerable experience with both motherhood and contraceptive use and therefore had a realistic basis for their expectations. Younger women with less experience in childbearing gave reports on future expectations which appeared to Freedman and his associates to be realistic in terms of the experience of the older women in their sample (Freedman et al., 1959:219). In addition, it was anticipated that at the aggregate level expectations would be more relaible than at the individual level.

The GAF-I investigators set out to infer change by analyzing intercohort patterns in family size expectations. Essentially, they concluded that among the white population of the U.S. there had been a steady decline in the average number of children born per married woman from women born in 1871-75 to women born in 1915-25 (Freedman et al., 1959:226). They note that "the expectations of the wives interviewed in this study suggest that the average size of completed

families is in the process of rising substantially" (Freedman et al., 1959: 228) but, it is cautioned, that the decline in the proportion of very large families continues. It is recognized that both age at marriage and experience with childbearing affect levels of fertility expectations but no attempt is made in GAF-I to deal with these difficulties. Following an analysis of cohort birth expectations by social and economic group membership, it is concluded that differentials by these groups are disappearing (Freedman et al., 1959:318).

The last part of the GAF-I analysis, and the most controversial, attempts to broaden observed patterns in cohort fertility to forecast future fertility trends. The critical problem faced by GAF-I researchers in this regard was that they had data only from a survey at one point in time, with any two cohorts by definition being at different ages at the same time. Their fertility projections are the first to utilize fertility expectations from a national survey, the fertility experiences of actual cohorts and the forecaster's interpretation of past trends in period birth rates (Freedman et al., 1959: 371). Subsequent developments have quite clearly shown that GAF-I forecasts were too low on the average (Ryder and Westoff, 1967:157). The general conclusion drawn from the GAF-I experience is that "expectations estimates from a single survey are unreliable forecasts" (Ryder and Westoff, 1967:157).

The second Growth of American Families Study (GAF-II), conducted in 1960, had as one of its primary purposes to see how well women interviewed in 1955 (GAF-I) had predicted the number of children that women similar to them would have during 1955-1960 (Whelpton et al., 1966:

1). GAF-II investigators were in a much stronger position than their GAF-I colleagues to assess intercohort differentials in expected family size because they would compare expected fertility of the same cohort at two successive ages. The striking conclusion of GAF-II is that "the actual behaviour of comparable women in the interim period [between GAF-I and GAF-II] corresponds closely on the average with what those representatives of the same aggregate who were interviewed in 1955 said they were going to do" (Ryder and Westoff, 1967:153). "Fecund wives in 1955 expected an average of almost one birth each (.90 to .93), and the 1960 wives who were fecund in 1955 reported that they had had almost precisely that number (.92)" (Whelpton et al., 1966:15).

GAF-II also utilized cohort birth expectations for forecasting. A comparison of the additional births expected in 1955 and 1960 and the relative changes in expectations (Whelpton et al., 1966:14) led to the following observations. "(1) there has been a substantial intracohort change in expectations; (2) although increases predominate, the amounts of change, both absolute and relative, are highly variable from cohort to cohort and time period to time period; (3) the discrepancies do not seem to differ systematically by age at marriage or period of observation" (Ryder and Westoff, 1967:158). Being aware of these problems, the GAF-II investigators incorporated into their fertility forecasts an adjustment for the systematic increase in expected parity with age (Whelpton et al., 1966:377), although they recognized that the irregular pattern of changes in intercohort expectations made it difficult to adjust with confidence. The resulting forecasts by cohort were far superior to those made by GAF-I, even though the GAF-II forecasts have since been shown to be below the actual levels of fertility

(Ryder and Westoff, 1967:158). The central conclusion of the forecasting efforts was that total cohort fertility may be starting to decline.

The National Fertility Study (NFS) of 1965 followed GAF-I and GAF-II. Unlike its predecessors, NFS was more exclusively concerned with the estimation of parameters than with preparation of forecasts. The sample size (5,617) was larger and the sampling criteria less restrictive than in the earlier studies (Ryder and Westoff, 1971:11-12). In utilizing family size expectations data for comparative purposes, NFS imposes an age at marriage control (Ryder and Westoff, 1971:45). The central conclusion of the NFS analysis of expected parity is that younger cohorts are likely to experience a substantial rise in their age at childbearing with a small decline in eventual mean parity (Ryder and Westoff, 1971:52). The stability and reliability of expected family size data as a measure of future aggregate fertility is confirmed again.

The 1970 National Fertility Study has been a focal point for reflection and reconsideration of the results of fertility surveys thus far (Ryder, 1973). So far only limited results from the survey have appeared in print. Some of these findings are relevant to the thesis problem: (1) ". . . the entire decline in births within marriage across the decade of the 'sixties' can be attributed to the improvement in the control of fertility" (Westoff, 1975:579); (2) ". . . a substantial downward revision of future intended births has occurred" (Ryder and Westoff, 1973:475). (3) "Probably the best single predictor of fertility uncovered in our study is age at marriage" (Westoff, 1975:577); (4) ". . . by 1970, one-half of American couples

at risk of unintended conception . . . were protected by highly effective modern contraception that is coitus-independent" (Westoff, 1975:573); (5) "The 1970 NFS provides no support at all for the hypothesis that income bears a positive relation with fertility" (Westoff, 1975:578); (6) "The hypothesis of competition between child-bearing and non-familial roles is supported by the finding that sex-role traditionalism is positively correlated with wanted fertility (among whites only . . .)" (Westoff, 1975:578); (7) "The perception of the importance of population growth as a problem may play a substantial role in the number of children desired" (Westoff, 1975:578).

The direct intellectual descendant of the Indianopolis Study is the Princeton Study, of particular interest here because of its time series orientation. This study, the first of longitudinal fertility, sought to provide answers to questions raised in the Indianopolis Study on motivational links between environmental factors and fertility behaviour and decisions. By its longitudinal approach, the pitfalls of post-factum interpretation are overcome. The study began in 1957 with a sample size of 1,165 women all of whom had given birth to their second child about six months earlier. These women were re-interviewed in 1960, 1963 and 1967 at which time the original sample had shrunk to 833 respondents (Bumpass and Westoff, 1970). The salient finding of this study is that the wife's desired family size six months after the birth of the second child was the best predictor of fertility over the next three years (Westoff et al., 1963:67). The second strongest predictor was the average length of the first two birth intervals. The results of another longitudinal study in Taiwan (Freedman et al., 1975) indicate that the best predictor of future

fertility in a contracepting society is expressed attitudes toward wanting more children. These attitudes were found to be better predictors than actual characteristics for both modern and less advanced segments of the population.

Turchi (1975), in recent work mentioned in Section 2.1, empirically tests an integrated socio-economic theory of fertility through reanalysis of GAF-II data and data from the Survey of Economic Opportunity. Using family size expectations as an analogue for demand for children, Turchi examines the relationships between several explanatory variables contained in the economic model and demand for children. His basic findings from the GAF-II data of direct relevance here are: (1) family size in wife's family of origin has a significant direct effect on demand for children (Turchi, 1975:195); (2) expected family size of older women, bearing children around the time of the Depression, was considerably less than for the middle cohorts, with younger cohorts expecting fewer than middle cohorts (Turchi, 1975:188-195); (3) lack of farm background on the part of either spouse continues to exert a negative effect on fertility (Turchi, 1975:195); (4) "Women who have worked for any reason expect fewer children than those women who have not worked since marriage" (Turchi, 1975:196); (5) couples in which neither spouse is Catholic expect fewer children than couples in which both spouses are Catholic with mixed couples intermediate in expectations (Turchi, 1975:196); (6) surprisingly, wives active in outside organizations expect more children than do inactive wives (Turchi, 1975:196); (7) both those wives who thought they could plan and those who felt they could not plan expected fewer

children than those who were unsure as to their planning capabilities (Turchi, 1975:197); (8) "Later marriage appears to lead to expectation of smaller families and early marriage seems to imply slightly larger families" (Turchi, 1975:197); (9) women with eight or less years of education would appear to expect larger families but the expected negative impact of a college education on the demand for children is not found (Turchi, 1975:197);(10) potential income of the couple seems not to be a major determinant of family size, possibly because of multicolinearity in parameter estimates (Turchi, 1975:191-2, 198); and (11) expected family size is slightly lowered by disagreement between husbands and wives about their family size desires (Turchi, 1975:200).

Scanzoni (1975), in efforts that parallel Turchi's, has developed a sociological utilities model by which he examines child-bearing decisions and fertility expectations in the U.S. Starting with a concern about the linkages between economic opportunity and the family system, Scanzoni focuses on marital role specialization and commitment to opportunity participation as these affect fertility decisions (Scanzoni, 1975:1-2). Specifically, his interest is in the relation of sex role norms to fertility. The study relies on a sample of 3,096 interviews conducted in ten metropolitan areas in the East North Central U.S. in 1971. The sample, unlike most previous fertility surveys, includes both men and women in approximately equal numbers (Scanzoni, 1975:13-14). Scanzoni approaches the analysis of birth intentions by sex role orientations with the following comments:

> As a result of earlier socialization as well as other forces in the larger social structure, American society may be undergoing a very gradual change in the structure of sex roles. Concomitant with this is the change in the level of birth expectations and intentions. Our suggestion is that these two changes--so highly significant for the larger society--are linked together and that indeed the latter may in part be an outcome of the former. (Scanzoni, 1975:65)

Of relevance to the thesis problem are the following findings of Scanzoni: (1) "Preferences for individualistic rewards and egalitarian role structures depress orientations toward children or familistic rewards;" "The more egalitarian or individualistic wives are, the fewer children they intend to have." (Scanzoni, 1975:71); (2) "Sex role modernity (along with education and age at marriage) affects current work decisions which probably depress birth intentions" (Scanzoni, 1975:73); (3) "In predicting the lower birth intentions of non-working wives, the betas suggest it is the wife's instrumental self-concept that carries the strongest direct influence" (Scanzoni, 1975:73), which does not correlate with sex role modernity or education but does correlate with task-capability (Scanzoni, 1975:74); and (4) among highly educated women, sex role dimensions are strongly correlated with reduced birth intentions (Scanzoni, 1975:75).

2.4.2 Canadian Literature

Empirical examinations of expected family size in Canada are much scarcer than in the U.S. These data as yet are not collected in Canada on a routine basis. The first large-scale fertility survey to be conducted in Canada was not done until 1968 in Toronto (Balakrishnan *et al*., 1975) although a small study was carried out with a specific sub-population earlier in Montreal (Carisse, 1964). The

second large survey was done in the Province of Quebec in 1971 (Henripin and Lapierre-Adamcyk, 1974). The Edmonton study under analysis here is essentially the third major fertility survey to be undertaken in Canada although a very small survey done in Halifax (Elahi, 1973) and a sizeable survey in Ottawa with slightly different foci (Pool, 1975) preceded it. Instead of utilizing fertility survey data, Canadian demographers have relied on census and vital statistics reports for their analyses of fertility patterns. Completed family size was asked for the first time in the 1941 Census of Canada and provided the basis for a monograph on changing family size in Canada by Charles (1948). Asked again in the 1961 Census, this question resulted in a similar high quality monograph by Henripin (1968). Findings from the Henripin report which are of relevance to the thesis were discussed in Section 1.3.

The Toronto survey was conducted in the first three months of 1968. Interviews were obtained from 1,632 married women under the age of 46 and living with their husbands in Metropolitan Toronto (Balakrishnan et al., 1975:3). Actual respondents represent 80.7 percent of eligible respondents (Balakrishnan et al., 1975:5). One of the explicit purposes of the survey was "to determine the total number of children a couple is likely to have by the time their child-bearing is over" (Balakrishnan et al., 1975:8). To this end, information was collected on three variables: the number of children a woman considers ideal for the average Canadian family, the number she actually desires and the number she expects to have. The most striking finding of this particular analysis of Toronto survey data is the clear preference for 2-4 children with an avoidance of numbers below or

above this range (Balakrishnan et al., 1975:10). The bimodiality in desired family size found in U.S. studies was not found here. Less relative variation is found in responses to ideal and desired family size than in responses to expected. Like other studies, the Toronto respondents indicate a larger number of children as ideal and desired than as expected. The means for ideal, desired and expected family size are 3.01, 3.07 and 3.82 respectively (Balakrishnan et al., 1975:12).

A comparison is made in the Toronto report between size of completed family calculated from estimated parity progression ratios and the mean number actually said to be expected. "If the women in our sample were to repeat the experience of those who in a sense have preceded them, their completed family size would be 15 percent larger [3.25 in contrast to 2.82] than what they actually expect to have" (Balakrishnan et al., 1975:14). This suggests to the Toronto investigators that some downward revision of family size norms has occurred.

With respect to structural differentials, the following findings from the Toronto study seem relevant to the thesis problem: (1) "Expected fertility does not vary with age in any uniform way" (Balakrishnan et al., 1975:15); (2) Catholics have higher actual and expected fertility than non-Catholics but the differences are smaller than those found in the U.S. (Balakrishnan et al., 1975:35); (3) "Those who attend church more often have more children irrespective of their religious affiliation" (Balakrishnan et al., 1975:35); (4) "Educational attainment of the wife does not have as clear an inverse relation to fertility as has generally been the case in the past" (Balakrishnan et al., 1975:35); (5) There is found to be no association

of income with fertility (Balakrishnan *et al.*, 1975:26); (6) Labour force participation has the most significant relation to current fertility and to expected fertility of all differentials examined (Balakrishnan *et al.*, 1975:35); and (7) Nativity is a crucial variable in explaining fertility differentials in Canada, unlike in the U.S. (Balakrishnan *et al.*, 1975:36).

Chaudhury (1973) has used a selected subset of the Toronto survey data specifically to study the relation of income to fertility. In an analysis limited to "effectively planned, fecund, native urbanites" (Chaudhury, 1973:24), Chaudhury finds (1) a weak positive relationship between present relative income and cumulative fertility (Chaudhury, 1973:iv); (2) a positive variation of fertility with income; (3) no relationship of fertility norms to relative income; and (4) no relationship of consumption behaviour and norms to relative income (Chaudhury, 1973:v). These findings will be discussed in greater detail in Chapter 5.

Additional findings from the Toronto study of relevance to the thesis problem include attitudes toward contraception and abortion and use of contraception. (1) "The widespread acceptance of contraception is evident in the fact that 86 percent [66 percent of Catholics] approved of contraception without any qualifications and another seven percent approved with some qualifications" (Balakrishnan *et al.*, 1975: 55); (2) "While contraceptive use does not vary much by age or duration [of marriage], type of method does" (Balakrishnan *et al.*, 1975:77), indicating that in societies where high levels of contraceptive use exist, motivational differences may be expressed in the type of method used, rather than use or non-use; (3) the great popularity of oral

contraception is shown in almost half of all contraceptive users on pills (Balakrishnan et al., 1975:77); (4) the popularity of oral pills declines with age and marital duration (Balakrishnan et al., 1975:78); (5) Oral contraceptives first became available in Canada in 1961 and by 1967 half the women in metropolitan Toronto exposed to risk of pregnancy were using them (Balakrishnan et al., 1975:79); (6) "About two-thirds of the present oral users began to use them for the first time after January 1965" (Balakrishnan et al., 1975:123); (7) ". . . the general pattern is towards a less liberal attitude [toward abortion] as family size increases," (Balakrishnan et al., 1975:130) with success or failure in family planning conditioning attitudes; and (8) religion and religiosity are predominant in attitudes towards abortion (Balakrishnan et al., 1975:134).

The Quebec fertility study was conducted in the Province of Quebec in the summer and autumn of 1971. A total of 1600 women under the age of 35 with no specification as to marital status were interviewed, with about 40 percent of the respondents coming from the Montreal metropolitan area (Henripin, 1972:3). A birth cohort analysis of family size expectations revealed that there has been a 24 percent decrease in mean expected family size in the twenty year period from 1931 to 1951 (Henripin, 1972:4). If continued, suggests Henripin (1972:5), an expected family size of 2.0 children can be predicted for the cohort of women born in Quebec in 1966-71.

Public opinion polls are another source of data on family size preferences in Canada. "Absence of national fertility survey data in Canada has fostered the use of Canadian Gallup poll data on the social psychological components of reproductive behaviour" (Boyd, 1974:360).

The results of the 1960 Gallup polls showed that Canadians desired a mean family size of 4.2. Several Canadian demographers have suggested that this figure is too high when compared to results from other countries (Boyd, 1974:360-361; Legare, 1973:28; Marsden, 1972:82-84). The 1960 results are also out of keeping with the trend observed in both earlier and later Gallup polls as well, as pointed out by Boyd (1974: 361-362). Boyd notes that the mean ideal family sizes in 1945, 1947 and 1957 for Canadians were 4.1, 3.9 and 3.7 respectively. By 1970, only 33 percent of the population chose 4 or more as ideal. Boyd concludes that the changed wording of the 1960 Gallup poll from earlier polls may be responsible for inflated responses (Boyd, 1974:363-364) as well as coding errors in the data. She cautions against reliance on Gallup poll data for information on family size preferences and reproductive intentions.

2.5 Criticisms of Empirical Approaches to Expected Family Size

The central criticism launched against empirical analyses of expected family size is in part a theoretical criticism already mentioned in Section 2.2. This is that analyses focusing largely or solely on structural differentials are increasingly failing to reveal much about expected family size trends, reproductive motivations or causes of fertility differentials. The situation is one where empirical covariance statements abound while understanding of the operative mechanisms behind the statement remain unclear. The problem is largely due to the fact that covariance statements are traceable to the sociological principle that individual action may be the result of group pressure but the means by which this implicit guiding principle operates

are not clear. Except in quite recent work, the decision-making component of fertility behaviour has been largely ignored. Added to the difficulty is the growing convergence of fertility which makes even low-level insights gained from analyses of structural differentials increasingly less meaningful.

The second major criticism of the empirical approach to expected family size questions is the degree to which stated family size expectations are valid indicators of lifetime intentions. A mass of evidence, based largely on U.S. time series data indicates that expected family size is an excellent measure of future aggregate completed fertility, revealing considerable stability and reliability over time. In spite of this evidence the concern has been voiced that statements of future reproductive intentions might be the result of period-specific stimuli such as concern with population in the media. This view, essentially launched by Blake (1974), holds that the historically unique stimulus of intense public attention to population growth and family size could account for a share of the observed decline in birth expectations in the U.S. In testing this thesis, she examines the consistency of attitudes toward family size held by sub-groups of the American population. Her conclusions are that Americans, in particular white Americans, do not have a stable and consistent utility scale regarding family size and that anti-natalism is not generally supported by Americans (Blake, 1974:42-43). The specific hypothesis that greater exposure to the media is associated with smaller stated birth expectations is not tested by Blake.

In a comment on Blake's work, Bumpass (1975) takes the position

that ZPG and like arguments may have facilitated belated changes in attitudes toward family size rather than downwardly biasing expected or ideal family size. The distinction between cultural ideals and pragmatic adaptations in behaviour is elaborated further by Bumpass. He concludes suggesting that there may be nothing inconsistent in tolerance for large families, personal anti-natalism as reflected in preference for small families and small family size expectations. Kruegel (1975), in a similar comment on Blake, suggests the apparent need for discerning whether individuals with differential exposure to media, knowledge of population problems and concern with population growth exhibit different family size preferences. Testing this hypothesis using public opinion data collected for the U.S. Commission on Population Growth and the American Future, he finds a modest association. Kruegel's conclusion is that there is some evidence to support Blake's thesis.

2.6 Development of Hypotheses

At least three central themes seem to emerge from the review of the theoretical literature on expected family size. First, explanation of fertility behaviour by reference to aggregate differentials, although perhaps a rudimentary form of theory, is not completely successful at enhancing understanding. Second, explanatory frameworks alternative to the traditional examination of differentials are focusing increasingly on the determinants of fertility choice as well as the constraints on that choice. The third central theme apparent in the theoretical literature is that ultimate fertility performance is a direct consequence of micro- and macro-level societal

changes which impinge on fertility decisions as well as a manifestation of these changes.

Several general themes are apparent in the empirical literature review as well. First, the increasing inadequacy of structural differentials to explain fertility patterns emerges as a theme of critical importance. A second theme apparent in the empirical literature is that family size norms and preferences are declining with fertility control increasing. This suggests that ultimate family size is becoming more of a controlled outcome. Third, the observation emerges repeatedly that although income per se bears little relation to fertility, other economic factors such as relative income and economic security show direct or indirect relationships to family size.

These salient themes suggest the need for examination of ultimate family size preferences among cohorts of women from the GAFS sample to see whether the observed downward revision found elsewhere emerges in Edmonton. The theoretical approaches that place fertility within a choice context in conjunction with the empirical finding that fertility is increasingly becoming a controlled outcome suggests the need for examining intercohort fertility differentials in the framework competing choices. It seems appropriate, in light of the empirical finding that economic factors affect fertility and the theoretical theme which suggests that fertility is the product of social changes, to examine ultimate family size preferences of cohorts in terms of both economic and social competition. It would seem, in view of the conflicting evidence with respect to the effect of income on fertility, that social factors are likely to be more important determinants of fertility than economic.

The above brief summary of the theoretical and empirical literature on expected family size suggests the testing of four specific hypotheses:

1. There has been a downward revision in wanted completed family size and in family size norms with younger cohorts indicating smaller expected completed family size, smaller desired families and smaller family size ideals than older cohorts;

2. Younger cohorts indicate preferences for consumer goods and economic rewards which are competitive with childbearing to a greater degree than older cohorts;

3. Younger cohorts reveal role preferences and values which are extra-familial and individualistic and therefore competitive with childbearing to a greater degree than older cohorts;

4. These extra-familial and individualistic role preferences and values are most important determinants of expected family size and wanted completed fertility than are economic considerations.

Each hypothesis is elaborated and expanded as it is tested. Hypothesis 1 essentially defines Chapter 4. During the course of its testing, structural differentials in the intercohort pattern of fertility are examined, including the influence of background socializing forces. As well, attention is given in this chapter to the normative range of fertility. Hypothesis 2 is tested in Chapter 5 in which the economic utilities model is elaborated and adapted for the purposes of the present study. Hypotheses 3 and 4 provide the basis of Chapter 6 following development of a utilities model adapted for social considerations.

CHAPTER 3

DATA AND METHODOLOGY

3.1 Source of Data

The data under analysis in the thesis were collected in a fertility survey conducted in Edmonton, Alberta from 19 November 1973 to 15 February 1974. Called the Growth of Alberta Families Study, with the unfortunate[1] acronym GAFS, a total of 1,045 interviews were completed among women aged 18 to 54 with no specification regarding marital status. The study was funded by a grant to the Population Research Laboratory, Department of Sociology, University of Alberta from Health and Welfare Canada (Grant No. 4470-8-1). It was co-directed by Professors P. Krishnan and Karol Krotki. A first comprehensive report on the study has appeared under the title of Growth of Alberta Families Study GAFS: A Report to Health and Welfare Canada on Questionnaires Collected from 1,045 Women of Edmonton in the Winter of 1973-4, co-authored by P. Krishnan and Karol Krotki (1976).

The GAFS survey represents the third major fertility survey to be conducted in Canada and the first in Western Canada as mentioned earlier. The first was carried out in the Toronto Metropolitan area in 1968 (Balakrishnan et al., 1975). The second was Quebec-based with interviews conducted in 1971 (Henripin and Lapierre-Adamcyk, 1974). The GAFS study was intended to add to knowledge of Canadian fertility

by studying the fertility behaviour and attitudes of Edmonton women.

Given the particular characteristics of Albertan society which define it as somewhat unique in the Canadian scene, it was decided to focus in the Edmonton study on some of these distinctive attributes. Two foci of the GAFS were the large number of Eastern Europeans who have settled in Edmonton and the diversified ethnic community apart from Eastern Europeans. The particular interest in the Edmonton study in ethnic differentials in fertility behaviour and attitudes is one of the study's unique contributions to the Canadian fertility literature. As well as findings reported by Krishnan and Krotki (1976) on ethnic differentials, a Ph.D. thesis has so far been completed on ethnic fertility based on the GAFS data (Beaujot, 1974).

3.2 The Sample and its Characteristics

The sampling technique was structured around the study's focus on ethnic differences in fertility attitudes. On the basis of several criteria, it was decided early in the planning of the study that a sample size of approximately 1200 completed interviews would meet the methodological requirements of the study. The sampling frame consisted of 1971 Census Enumeration Areas (EA's). Stratified sampling based on 1971 Census distributions of mother tongue,[2] was used to ensure that EA's with ethnic groups of particular interest (French, German, Polish and Ukrainian) were given a greater probability of selection. For the sixty EA's for which address lists were compiled, systematic sampling with varying sampling ratios was employed to select an optimum of at least 38 contacts per EA.

A total of 2,300 addresses represent the households from which the respondents were drawn. The results of these contacts are shown in Table 3.1. "Assuming that the 'no contact after four call-backs' group had the same incidence of ineligibles as the total of selected addresses where contacts were made and that all 'refusals' and 'others' were eligible, the non-response rate was 29 percent of the eligible population" (Krishnan and Krotki, 1976:2-3). The Toronto study reports a non-response rate of 17.5 percent (Balakrishnan et al., 1975:9) while for the Quebec study, the rate of non-response was 26 percent in the city of Montreal (Henripin and Lapierre-Adamcyk, 1974:147). Refusals in the Edmonton study were somewhat lower than in Toronto and approximately the same as for Quebec.

A household list was prepared for each selected dwelling in a predetermined fashion. Sex, age and marital status were ascertained in accordance with the first page of the interview schedule appearing in Appendix F. Persons in the GAFS target population were noted by the interviewer. Only one woman per household was selected for an interview. If more than one woman in the household was eligible, then the woman to be interviewed was selected on the basis of person selection tables. If the selected woman was not available, an appointment was secured. No substitutions were permitted. The weighting of completed interviews is based on the product of the weight of the Enumeration Area and the number of eligible women in the selected household. All data presented in the thesis are weighted.

Table 3.2 compares the ethnic distributions provided by the 1971 Census with the distribution of the GAFS sample. The proportion of

Table 3.1 Response and eligibility distribution

	No.	Percent
Completed interview	1,045	45.4
No one eligible at household	662	28.8
Refusal	221	9.6
Vacant household	132	5.7
No contact after four call backs	107	4.7
Eligible person not available	101	4.4
Others	32	1.4
Total	2,300	100.00

Sources: Beaujot, 1974:39 and Krishnan and Krotki, 1976:T2.2.

Table 3.2 Ethnic distribution in Edmonton 1971 Census and GAFS

	1971 Census		GAFS	
	Number	Percent	Number	Percent[1]
	(1)	(2)	(3)	(4)
British	193,605[2]	44.2[2]	288	30.5
German	54,405	12.4	137	13.8
French	29,500	6.7	95	8.6
Irish			82	7.6
Other W.E.	46,870	10.7	144	14.0
Ukrainian	58,475	13.3	123	11.8
Other E.E.	23,440	5.3	75	6.8
Other	32,130	7.3	71	7.0
DK and NA			30	0.0
Total	438,425	100.0	1045	100.0

[1]Percentages are weighted

[2]Includes Irish

Note: In the following breakdown, groups that contain 10 or more GAFS respondents (after weighting proportionately to sample size) are mentioned:

The British include 196 English and 107 Scottish.
The Other Western European include 40 Norwegians, 28 Dutch, 24 Swedish, 15 Italians and 13 Danish.
The Other Eastern European include 36 Polish and 11 Russian.
The Other include 11 Native Indian and 10 Jewish.

Source: Beaujot, 1974:14

British in the sample (including English, Scottish and Welsh) is substantially less than the Census proportion. In the Census, however, some Irish are included in the British category. Once the Irish are added to the British group, the difference between the Census and the sample proportions declines to 6.1 percentage points. The probability, assuming normality, of obtaining a sample in which 38.1 percent are British (including Irish) is quite small suggesting that the GAFS sample, at least in this respect, is considerably less than perfectly representative of the Edmonton British population.[3] Among the other ethnic groups, only other West Europeans in the GAFS sample approximate the British divergence from the Census proportions, but unlike the British, they are overrepresented. For the remaining ethnic groups, the sample proportions correspond more closely to the Census proportions,[4] with French and other Eastern Europeans being overrepresented, as are Germans but to a lesser degree while Ukrainians are slightly under-represented.

The age distribution of married women in the GAFS sample is compared with that for all Edmonton or reported in the 1971 Census in Table 3.3. For most age groups the GAFS proportions are either within one standard deviation from the Census proportions (Age groups 25-29, 30-34, 50-54) or under two standard deviations away (20-24, 40-44, 45-49). For the youngest age group, however, the GAFS sample considerably overrepresents the population. Women aged 35-39 are under-represented in the GAFS sample. For married women aged 15-19, the GAFS proportion is four standard deviations away from the Census. For age group 35-39, the GAFS proportion is almost three standard deviations removed.

Table 3.3 Age distribution by percentage of married women in Edmonton 1971 Census and GAFS

Age Group	1971 Census	GAFS
15-19	2.6	4.9
20-24	16.9	18.9
25-29	17.4	16.3
30-34	14.8	15.0
35-39	13.9	10.3
40-44	13.1	14.8
45-49	12.1	9.8
50-54	9.2	10.0
Total	100.0	100.0
N	95,252	736[1]

Source: Bracher, 1975:15; Krishnan and Krotki, 1976:T2.5.

[1]Sample size is reduced due to missing data.

Although it would be difficult to claim that the GAFS sample is representative of the Edmonton population in ethnic structure, in age composition it appears to be considerably more representative. Since the essential interest in the thesis is cohorts rather than ethnic structure, it would seem that generalizations to Edmonton cohorts are possible. Such generalizations, however, must be circumscribed by the knowledge that the sample's representativeness is not clear, particularly in the two age groups, 15-19 and 35-39.

3.3 The Questionnaire and its Administration

Development of the questionnaire (interview schedule) proceeded after a careful review of the immense body of KAP literature. Potential questions were drawn together in a document of some two hundred pages. The decision to include each question rested on two primary criteria: (1) comparability with other studies, particularly the two previous Canadian fertility surveys, and (2) service to the unique requirements of the GAFS interest. The resulting GAFS questionnaire is essentially a base-line fertility data collection instrument with relatively few innovations. One rather exciting innovation on which several papers have been published or presented at conferences is the employment of the randomized response technique to elicit more truthful responses to sensitive questions (Krotki and Fox, 1974; Krotki and McDaniel, 1975; Krotki and McDaniel, 1976; McDaniel and Krotki, 1976).

Women interviewers, some with substantial field experience, were hired to administer the rather detailed thirty page interview schedule to the selected respondents, a copy of which appears in Appendix F. Each interview took one hour to complete, on the average.

Interviewers, regardless of experience, were specially trained in the administration of the GAFS questionnaire. Under the direction of an experienced field supervisor, they were instructed on the nature of a scientific survey, the importance in the interviewing situation of faithful asking of questions and recording of answers in an objective non-reactive manner, the importance of organization including appointments for call-backs and lay-out of addresses in advance. Emphasis was placed during the training session on perseverance in finding selected addresses and calling back if necessary, on the great need for politeness and self-assurance, and on care in gaining positive rapport with the respondent. An interviewer's manual of some twenty-five pages, containing all pertinent information was prepared for each interviewer for use during training and for reference during the course of her employment with the study. Very careful and detailed instructions were provided for the interviewers on addresses and definitions of households and persons so as to ensure accuracy in the sampling procedure.

A detailed procedure for call-backs was outlined for interviewers to encourage perseverance of selected eligible women. They were advised to check back three times at different times of the day. After no success, they were advised to contact a neighbour. Emphasis was placed during the training sessions on the requirement that the interviewer be prepared to take the interview at the time of the call-back. If a householder resisted the interview at the initial contact, the interviewers were instructed not to force the situation but to try to assess the reason. If it was that the householder was busy, then an appointment was made to conduct the interview at some

future time. After an initial refusal, a letter was sent out to the selected household by the survey directors, following which yet another attempt was made.

Coding began while interviewing was still in progress. Coders, who were also interviewers, contributed to the development of a suitably interpretative coding scheme. All coding was done on the interview schedules. These schedules were used directly for keypunching. The punched cards were read onto tape where all auditing and consistency checking was done. The number of consistency checks actually undertaken (185), represent only a small subset of what might have been done (Krishnan and Krotki, 1976:2-18). The idea was to provide a fairly consistent data set while retaining as much as possible of the original responses.

3.4 The Fertility Measures Adopted

The basic dependent variables in the present study are expected completed parity and two measures of wanted completed fertility, all surrogates for completed family size. Expected parity is computed by adding future expected births to current fertility. Essentially, expected parity is an index based on the following questions:

Q30: Do you want to have children eventually?

Q89: Do you want to give birth to a (another) child?

Q91: How many (more) children would you like to have?

A total of fifteen questions are used in computing expected famly size including questions on age, pregnancy status, fecundity impairments of either the respondent or her partner and marital status. A total of ten possibilities for deriving expected family size are developed. Only one

is selected for each respondent. The calculation of expected family size is shown in Appendix A.

Wanted completed fertility is a concept developed by Ryder and Westoff (1973) in an attempt to conceptually purify the expected parity variable. When adding expected future births to actually present births, the result is a contaminated mixture of past intentions and errors and future expectations which may or may not allow for errors. The utility of the concept of wanted fertility lies in its potential for concentrating on the demand for children in a somewhat less contaminated way than is permitted by simply appending expected births to actual births.

Two measures of wanted fertility are available in the GAFS data. The first measure of wanted fertility is obtained by summing "not at all" responses to the following question asked with respect to each pregnancy and subtracting the total from actual births:

Q40: Would you have preferred this child
1) earlier, 2) later, 3) same time, or
4) not at all?

The total number of reported unwanted births, for any reason, is obtained first. Given the possibility of inconsistency of reporting due to factors other than numbers desires, such as marital difficulties at the time of the birth, physical or mental defects, the child's personality or character at the survey time, etc., it was decided to eliminate all those births which were reported as unwanted but were followed by a wanted birth. This result, wanted current fertility 1, was obtained for each respondent. To obtain wanted completed fertility 1, additional births expected by the respondent were added to wanted current

fertility 1. Details of computation of this measure and the following one are provided in Appendix A.

The second measure of wanted current fertility is based on the following questions asked in the interview subsequent to obtaining the pregnancy histories described above:

Q96: Would you prefer to have borne fewer children?

Q76: How many in all would you like to have borne?

For currently pregnant women, the corresponding questions are QQ77, 80 and 81 (Refer to Appendix F).

Respondent's wanted current fertility 2 is taken to be the response to Q97. The remainder obtained by subtracting this response from actual births is unwanted births. Wanted completed fertility 2 is obtained by adding additional expected births to current wanted fertility 2.

Although current wanted fertility 2 lacks the specificity of current wanted fertility 1, it could be argued that the former measure is more abstract than the latter and thus contains less of an upward bias in reported wanted fertility. The questions on which the first measure is based are part of the pregnancy history section of the interview. At the outset of each series of questions pertaining to each live birth, the name of the child is asked followed by questions on his age on last birthday, his birth-weight and the length of that pregnancy. The respondent might well be reluctant to report that one of her children, whom she has just named, whose age and even perhaps last birthday she has just recalled was not wanted at all. On the other hand, by the time she is asked Q97 (or Q78 if she is currently pregnant), she may be thinking not in terms of the specific children but rather of

numbers of children. It is for this reason that wanted completed fertility 2 might deserve greater credence. It is suspected that the principal kind of misstatement in the GAFS data is the tendency to report in retrospect a birth as wanted which was unwanted prior to its occurrence. Equal emphasis will be placed in subsequent data analyses, on the two measures of wanted completed fertility and expected fertility. Current wanted fertility 1 and 2 are not employed as dependent variables but only as interim variables in computing wanted completed fertility 1 and 2.

In addition to these three basic fertility measures which serve as dependent variables throughout the empirical sections of the thesis, use is made of family size preference measures in the first empirical chapter. Analysis of these variables has two central purposes in the present study: (1) assessment of the normative boundaries circumscribing personal choice; and (2) examination of the interrelations of family size preferences and expectations. Furthermore, it is possible, by inclusion of these measures in the first empirical chapter, to compare and contrast cohort patterns in the various measures of family size choice and preference.

Specifically, two measures of respondent's desired family size are available in the GAFS questionnaire:

Desired Family Size 1:

Q105: If you could now choose exactly the number of children to have altogether in your lifetime, how many girls and how many boys would you choose?

Desired Family Size 2:

> Q108: What do you think is the desirable number of children for people in your social and economic circumstances?

The measure of desired family size employed in the thesis is the former one. It is seen to correspond more closely with the idealistic-personal measure of desire as specified in Chapter 1 than does the latter measure. One measure of ideal family size is provided in GAFS:

> Q114: What do you think is the ideal number of children for the average Canadian family today?

This measure corresponds very closely with the realistic-social concept of family size preference, as outlined in Chapter 1.

3.5 The Cohort Measures Adopted

The cohort measures used in this study are similar to those developed by Ryder and Westoff (1973) to analyze wanted and unwanted fertility in the U.S. for the Commission on Population Growth and the American Future. The intention in developing these synthetic[5] cohorts which are, in fact, a combination of birth and marriage cohorts, is to circumvent the age at marriage bias present in cross-sectional data. This bias is particularly problematic in studying wanted fertility since it has been shown repeatedly that wanted fertility varies inversely with age at marriage (Ryder and Westoff, 1973:485).

Prior to establishing synthetic cohorts for this study, the GAFS data are tested for age at marriage bias. Tables 3.4 and 3.5 show mean wanted births simultaneously by birth and by marriage cohorts for those cells in which the sample size is greater than 10. Table 3.4 presents means for all families and Table 3.5 for only those

Table 3.4 Mean wanted completed family size by birth cohorts and marriage cohorts

Marriage Cohorts	Birth Cohorts 1918-25	1926-30	1931-35	1936-40	1941-45	1946-50	1951-56
1935-45	3.10(56)	-	-	-	-	-	-
1946-50	2.83(28)	3.87(50)	-	-	-	-	-
1951-55	-	2.62(29)	3.13(51)	-	-	-	-
1956-60	-	-	2.72(35)	2.85(44)	-	-	-
1961-65	-	-	-	3.02(28)	2.57(56)	2.54(16)	-
1966-70	-	-	-	-	2.21(43)	2.59(68)	2.20(22)
1971-74	-	-	-	-	-	2.13(42)	2.50(95)

Table 3.5 Mean wanted completed family size of women in <u>completed families</u> by birth and marriage cohorts

Marriage Cohorts	Birth Cohorts 1918-25	1926-30	1931-35	1936-40	1941-45	1946-50	1951-56
1935-45	3.10(56)	-	-	-	-	-	-
1946-50	2.83(28)	3.87(50)	-	-	-	-	-
1951-55	-	2.62(29)	3.19(50)	-	-	-	-
1956-60	-	-	2.69(35)	2.80(42)	-	-	-
1961-65	-	-	-	2.54(24)	2.34(40)	1.93(12)	-
1966-70	-	-	-	-	1.92(24)	1.91(25)	-
1971-74	-	-	-	-	-	-	-

who have completed their families (where actual family size equals expected family size). Although the GAFS data do not provide sufficiently large numbers for a large number of cells to have reliable data reported, some conclusions may be drawn on the age at marriage bias present in the GAFS data. If bias is present, then it is reflected in the degree to which mean wanted fertility rises from left to right across each row (for women married in the same year, the younger they were at marriage, the higher the wanted fertility) and declines from top to bottom down each column (for women born in the same year the earlier they marry, the higher the wanted fertility).

From Table 3.4, it may be seen that for four marriage cohorts (1946-50, 1951-55, 1956-60, 1971-74), there is a rise from left to right. For one (1961-65), however, there is a decline. In another (1966-70), the pattern is inconsistent. For the first marriage cohort (1935-45), data are inadequate to discern a pattern. For birth cohorts a similar inconsistent pattern is revealed. For four birth cohorts (1918-25, 1926-30, 1931-35 and 1941-45), there is a decline from top to bottom. For two cohorts (1936-40, 1951-56) there is an increase in mean wanted fertility as age at marriage increases. One cohort (1946-50) shows an inconsistent pattern. Restricting the analysis to completed families only in Table 3.5, it is seen that bias is greatest for the earlier marriage cohorts (1946-50), 1951-55, 1956-60). The marriage cohort 1960-65 shows an increase as age at marriage increases while the latest marriage cohort reveals no change. For birth cohorts, an inverse relationship is apparent between mean wanted fertility and age at marriage.

It is clear from these two tables that the older marriage cohorts tend to be biased to a somewhat greater degree than the more recent marriage cohorts. The evidence is less clear with respect to birth cohorts but it seems that earlier birth cohorts are less biased than earlier marriage cohorts. With a firm desire to maximize the number of cohorts available for analysis and to avoid age at marriage bias as much as possible, "birth cohort equivalents" were established consisting of the following series:

1. Birth cohort 1918-25
2. Birth cohort 1926-30
3. Combination of birth cohort 1931-35 and marriage cohort 1951-55 excluding double representation
4. Combination of birth cohort 1936-40 and marriage cohort 1956-60 excluding double representation
5. Marriage cohort 1961-65
6. Marriage cohort 1966-70
7. Marriage cohort 1971-74

3.6 The Background, Economic and Social Variables

The background variables in the study include nativity, residence in youth, family size of origin, education, religiosity, ethnicity and religion. Justification for inclusion of these particular variables stems directly from the theoretical and empirical literature reviews where these variables were found to account for some of the variability in wanted and expected family size. It may be useful to indicate the source of these variables in the interview schedule and to provide coding categories:

Q2: Respondent's nativity

What province or country were you born in?

1. Canadian born
2. Foreign born
3. Missing data

QQ5,7: Respondent's residence in youth

Where did you live most of the time while you were growing up (say up to the age of 12)?

1. Rural community or farm
2. Town
3. City

Q8: Respondent's family size of origin

How many sons and daughters did your parents have?

1. 1
2. 2
3. 3
4. 4
5. 5 or more
9. missing data

QQ17,18: Respondent's education

1. 0-8 years
2. 9-13 years but no post-secondary
3. post-secondary but no university
4. some university
9. missing data

Q22: Respondent's religiosity

In the last month how often did you attend religious services (other than weddings, funerals, etc.)?

1. none
2. 1-3 times
3. 4 or more times
9. missing data

Q23: Respondent's ethnicity

To what ethnic or cultural group did you or your ancestor (on the male side) belong on coming to this continent?

1. British (English, Scottish, Welsh)
2. German
3. French
4. Irish
5. Other Western European
6. Ukrainian
7. Other Eastern European
8. Other
9. missing data

Q27: Respondent's religion

1. Protestant: includes Anglican, Baptist, Lutheran, Mennonite, Pentecostal, Salvation Army, United Church and Protestant;
2. Catholic (and Orthodox): includes Greek Orthodox, Roman Catholic and Ukrainian Catholic;
3. Other: includes Jewish, other and none
4. missing data

A major segment of the thesis involves examining the degree to which economic factors impinge on anticipated fertility outcomes. A number of questions on economic position, preferences, and values are included in the GAFS questionnaire. In the operationalization of the economic model of fertility, appropriate GAFS questions are combined into indices. The variables actually used in the economic model

chapter include proportion of years worked by the respondent since age sixteen, respondent's education, implied work years lost through childbearing by respondent, ownership of high status items (standardized for husband's income and actual family size), relative income position based on husband's 1973 earnings, relative income position based on family's 1973 earnings, feelings of financial success and willingness to support a child during post-secondary education. Details on computation of these indices are provided in Appendix B.

The last empirical section of the thesis focuses on social variables, such as role preferences, perceived norms and values in an attempt to assess the degree to which these variables impinge on ultimate wanted fertility. The measurement of values, attitudes and norms has always been problematic in social science. This is no less true in the GAFS data. Given that it was not one of the purposes of the GAFS to measure such sociological variables in any depth, pertinent questions are not abundant. Nonetheless, the principal investigators of the GAFS showed sufficient interest in sociological matters to include a wider range of questions in the interview schedule than is typically included in fertility surveys. The sociological indices computed on the basis of the somewhat limited set of GAFS questions on social matters include mother role orientation, traditional female role orientation, egalitarian attitudes, traditional sex ratio preferences in children, traditional childbearing motivation, tolerance of large families, concern with population growth. Details of computation of all these indices may be found in Appendix B.

3.7 The Techniques of Analysis

Three general methods of analysis are used in this thesis. In the first, attempts are made to control for and/or to adjust for differences among cohorts on the variables under consideration. The procedure used has the objective of determining whether intercohort differences disappear when specific factors of concern are controlled. The second approach is to submit factors which are of interest as independent variables to a multiple regression model applied separately to each cohort. The objective here is to compare the resulting regression coefficients to determine whether the same factors have differential effects in the various cohorts. The third method is intended to maximally differentiate among cohorts for a constellation of values, attitudes, norms and background factors.

The central technique used throughout the thesis is Multiple Classification Analysis (MCA). This method, gaining rapidly in popularity in social science research, has been described in detail in a text entirely devoted to the technique (Andrews et al., 1973). It therefore seems unnecessary to elaborate the technique here. MCA would be viewed as a blend of n-way analysis of variance and multiple regression with dummy variables. Its advantage in the present context is that it can handle predictor variables which are nominal scales permitting ready incorporation of background attribute variables into the model. Over multiple regression with dummy variables, MCA has the advantage of providing the means of each category expressed as deviations from the grand mean, in addition to mean values adjusted for all other variables in the model. MCA has

the disadvantage of being an additive model which is unable to handle interaction effects. It is therefore necessary to test interactions by means of a two-way analysis of variance prior to submitting variables to MCA.

The basic model used in the Multiple Classification Analysis is the following (Andrews _et al_., 1973:36):

$$Y_{ij} \ldots n = \bar{Y} + a_i + b_j + \ldots + e_{ij} \ldots n$$

Where $Y_{ij} \ldots n$ = the score (on the dependent variable) of individual n who falls in category i of predictor variable A, category j of predictor B, etc.

$\bar{Y}$ = grand mean on the dependent variable

a_i = the "effect" of membership in the i^{th} category of predictor A

b_j = the "effect" of membership in the j^{th} category of the predictor B

$e_{ij} \ldots n$ = error term for this individual

An iteration procedure is used to estimate the coefficients (a_i, b_j . . .) starting with the mean values (minus the grand mean) of the dependent variable on each category of each predictor and subsequently adjusting for the values of all other predictors. This minimizes the sum of the squared errors thereby providing a best fit for the observed data. The process assumes that the errors in the prediction have a mean of zero, equal variance and are uncorrelated (Andrews _et al_., 1967:51).

The second approach used in this thesis is multiple regression analysis applied separately to each cohort. This approach is fairly basic and is described well in a number of places (Cooley and Lohnes, 1971; Darlington, 1968; and Draper and Smith, 1966) so

requires no detailed elaboration here. The following standard multiple regression additive model is used:

$$\bar{Y}_i = A + B_1 X_1 + B_2 X_2 + \ldots B_k X_k + U_i$$

where Y_i = the score on the dependent variable of individual i

A = constant term

B_1 = the effect on Y_i of a change in one unit in X_1 controlling for the effects of $X_2 \ldots X_k$

X_1 = the score of individual i on independent variable X_1

U_i = error term for individual i.

The coefficients are estimated through an ordinary least squares procedure that minimizes the sum of squares of errors or residuals (U's). This process assumes that the residuals have a mean of zero, equal variance and are uncorrelated. Variables that are not coded on at least an ordinal scale are omitted from the regression analysis. In actuality, this involves deletion of very few variables. Religion, one of these omitted variables, is employed as a control for each set of regressions.

The third approach taken in the thesis is multi-group discriminant analysis. The method of discriminant analysis has been extensively discussed in several excellent sources (Cacoullos, 1973; Cooley and Lohnes,1971; and Eisenbeis and Avery, 1974). The basic objective in this method is to weight and linearly combine variables on which groups are expected to differ in some fashion so that the groups are maximally distinct statistically. "The discriminant model may be interpreted as a special type of factor analysis that extracts orthogonal factors of the measurement battery

for the specific task of displaying and capitalizing upon differences among criterion groups" (Cooley and Lohnes, 1971:243-244).

The discriminant analysis model may best be viewed as a stepwise procedure extracting one discriminant function of the following form at a time:

$$D_i = d_{i1}Z_1 + d_{i2}Z_2 + \ldots + d_{ip}Z_p$$

Where D_i = the score on discriminant function i

d_i = weighting coefficient

Z = standardized values of the p discriminating variables used in the analysis

The maximum number of functions which can be derived is equal to either one less than the number of groups or to the number of discriminating variables, if there are more groups than variables. Application of discriminant analysis requires several assumptions: (1) interval data, (2) statistical independence of variables and normal distribution; and (3) equal variance-covariance matrices. For analytic purposes, discriminant functions serve to identify variables which contribute most to differentiation among groups. Discriminant analysis also may be used for classificatory purposes once a satisfactory set of discriminant functions has been derived. This is essentially a predictive function for future unknown cases. It can be utilized further to classify existing cases in the dataset as a check of the adequacy of the discriminant functions. In the present analysis, however, only the analytic capabilities of discriminant function analysis will be used.

CHAPTER 4

INTERCOHORT DIFFERENTIALS IN THE NORMATIVE RANGE OF FERTILITY

4.1 The Normative Range of Fertility

The normative explanation of fertility asserts that procreation is largely a social process shaped by attitudes, values, beliefs and actions of social groups. "Many of our earliest insights regarding the determinants of differential fertility can be traced to the sociological assertion that individual behaviour may often be the result of group pressure" (Turchi, 1975:11). Sociologists have concentrated on fertility as a social process with determinants set largely by normative influences. This view is probably at the heart of the traditional demographic study of fertility. As Petersen (1975:200) suggests, "biology sets a maximum number of possible births, and man contrives by one means or another to reduce it." Despite this orientation, the term "norm" in the sociology literature is without precise definition. Its usage, however, seems to conform to one of the following definitions:

> (1) a collective equation of behaviour in terms of what ought to be; (2) a collective expectation as to what behaviour will be; and/or (3) particular reactions to behaviour, including attempts to apply sanctions or otherwise to induce a particular kind of conduct (Gibbs, 1965:589).

With this view, it seems obvious that intensive enquiries into fertility behaviour and the social determinants of fertility would focus on individuals' perceptions of the often elusive norm of child-bearing. This has been done largely by asking respondents in the course of a fertility survey about their social and personal orientations toward numbers of children. Typically, the respondent is asked how many children she _expects_ or intends to have, how many she would really _desire_, and what she considers to be the _ideal_ number of children in the average family in her country. Conceptual distinctions among these orientations toward family size were elaborated earlier in the thesis, in Section 1.2. The vast empirical literature amassed from the study of family size orientations concludes consistently that a normative order exists which regulates family size within a specified range (Balakrishnan _et al_., 1975; Blake, 1974; Bumpass and Westoff, 1970; Freedman _et al_., 1959; Freedman _et al_., 1965a; Henripin and Lapierre-Adamcyk, 1974; McLaughlin, 1974; Ryder and Westoff, 1971; Westoff _et al_., 1957; Whelpton et al., 1966).

This chapter intends to examine the nature of the normative range of fertility in Edmonton. Following a discussion in the next section of previous empirical findings on the normative order, consideration will be given to the general interrelationships among family size orientation measures. Comparisons between Edmonton findings with those of previous empirical studies will be made. The cohort pattern of normative fertility will then be studied in an attempt to test the following hypothesis: there has been a downward revision in family size norms with younger cohorts indicating smaller expected completed family size, smaller desired families and

smaller family size ideals than older cohorts. The role of background variables in family size preferences by cohort will be examined through application of analysis of variance, MCA and multiple regression.

4.2 Previous Empirical Findings

It seems pertinent to review some salient empirical findings from previous studies with respect to the normative range of fertility. To review all such findings or even a major part, however, would be an enormous undertaking far beyond the scope of this thesis. This section selects from the vast empirical literature two studies which focus specifically on the normative range question and which analyze, in particular, the interrelationships among the various measures of family size orientation. These two studies are the 1965 U.S. National Fertility Survey (Ryder and Westoff, 1971) and the 1968 Toronto Fertility Survey (Balakrishnan et al., 1975).

Ryder and Westoff (1971) number among the first researchers to intensively study the interrelationships among orientations toward family size and to focus directly on the bounds of the normative range of fertility. Specifically, they analyze intended family size rather than expected as well as desired, ideal and actual family size as reported by respondents in the 1965 U.S. National Fertility Survey. Ryder and Westoff (1971:27) find that although the means for ideal, desired and expected family size are very similar (3.29, 3.29 and 3.24), the distribution of responses by parity differs considerably. Standard deviations are found to increase from ideal to desired to intended to actual. The most likely values for ideal

parity are 4 and 3; for desired 2 and 4; and for intended and actual 2 and 3.

When means of these orientations are examined by race, religion and education, considerable variability emerges. Mean ideal and mean intended family size are much higher for blacks than whites although mean desired is higher for whites (Ryder and Westoff, 1971:28). Among whites, the Catholic mean is higher on all three measures than the non-Catholic. For ideal family size, the mean varies inversely with wife's education for blacks, whites, Catholics and non-Catholics. This is not the case for desired family size, however. Mean desired parity is considerably higher for white Catholics than for white non-Catholics but is very similar for blacks and whites. For total whites and blacks, there is a weak inverse relationship between education and mean desired family size but for Catholics those in the lowest and highest educational categories have higher desired parity than those in the middle category. Mean intended parity is widely variant for blacks and whites and Catholics and non-Catholics. As in the case of desired parity, a weak inverse relationship is found between mean intended parity and education but this does not appear for Catholic whites.

Comparisons are also made by Ryder and Westoff (1971:29) of the differences in the means for the three measures of family size orientation. The difference between mean ideal and mean desired for the total population is negligible. For blacks, however, the mean ideal is much higher than the mean desired. For white Catholics, the opposite is true with the mean desired higher than the mean ideal. The same pattern persists in all three educational categories.

Similarly, the difference between mean desired and mean intended is small for the total population but for blacks, particularly blacks in the lowest educational categories, mean intended exceeds mean desired. For whites, both Catholic and non-Catholic, mean desired parity is higher than mean intended, particularly in the higher educational groups.

The pattern of responses to the four parity questions is examined by Ryder and Westoff (1971:29-30) as well. This is done by calculating the non-random proportions that give the same responses to each pair of questions. The strongest relationship occurs between intended and current parity, not surprisingly. A moderately strong relationship exists between ideal and desired and between desired and intended parity. All other pairs are positively related but only weakly so. If the four questions are ranked from idealistic to realistic as ideal, desired, intended and actual, neighbouring questions are most closely related. On this basis, Ryder and Westoff (1971:30) conclude that a sequence of relationship exists in these family size orientation questions which forms a definite scale. The direction of the relationship, which would provide support for the existence of a normative range of fertility, is not clear however, as was suggested in Section 2.1.

Interrelationships among parity preferences are further examined by Ryder and Westoff (1971:31) by analyzing mean desired, mean intended and mean ideal family size for specified values of the other two measures. The relationship found forms such a neat pattern that "one is tempted to propose the formula that desired parity is equal to one-half the sum of ideal parity and intended parity" (Ryder

and Westoff, 1971:30). In fact, it is discovered that intended parity varies much more sharply with desired parity than with ideal. Ideal parity varies more closely with desired than intended. This analysis is taken by Ryder and Westoff to provide added support for the scale of preferences ranging from ideal to desired to intended parity.

A last finding of Ryder and Westoff (1971:32-33) deserving comment is the observed bimodality in response to questions on desired parity. Values of 2 and 4 are more commonly reported than values of 3. This is particularly true for women who have completed childbearing (where number intended equals current number). For those with completed families, white Catholics reveal a mode of 4 and white non-Catholics and blacks a mode of 2. Within each of these groups, the proportion citing 2 or 4 as their desired parity is larger than those citing 3. For those with incomplete families, no bimodality is apparent. Further analysis reveals that bimodality is particularly characteristic of blacks and respondents with little education but it extends through all subgroups (Ryder and Westoff, 1971:32-33). The possible explanation in terms of statistical artifact is examined by Ryder and Westoff (1971:34) and dismissed as unlikely since a similar bimodality pattern does not occur for ideal family size. They conclude that "it is plausible to take seriously the preferences expressed here" (Ryder and Westoff, 1971:34). The directors of the 1965 N.E.S. suggest that as family size is increasingly controlled the result might be an oscillation between 2 and 4 children in the U.S. as a function of economic and social conditions rather than between 2 and 3 or 3 and 4.

Balakrishnan *et al*. (1975:8) also examine interrelationships among family size orientations using fertility data collected in metropolitan Toronto in 1968. They view "discrepancies between ideal and desired number of children [as], at least conceptually, indications of discrepancies between general and personal norms about family size" (Balakrishnan *et al*., 1975:8). Furthermore, they see family size expectations as important indicators of changing family size norms. Comparisons of ideal, desired and expected family sizes show that mean ideal and mean desired are similar (3.0 and 3.1) but that expected family size is lower than either (2.8). A striking preference for 2-4 children is found with a clear avoidance of numbers either above or below this range. The bimodality found in desired family size by Ryder and Westoff in the U.S. is not found in this Canadian study. As in the U.S., the standard deviations, indicating relative variation in the responses, increase as one moves down the normative order from ideal to desired to expected to actual. The most likely values for ideal family size are 3 and 2 (followed closely by 4); for desired 2 and 3 (followed closely by 4); and for intended and actual, 2 and 3 (Balakrishnan *et al*., 1975:12).

The authors of the Toronto study view the sharp boundaries they find delimiting family size as "indicative of the operation of effective normative pressures which define a family of less than two children as 'too small' and more than four as 'too large'" (Balakrishnan, 1975:11). They further suggest that their evidence points toward intolerance of great differences in family size in the population. Balakrishnan and his associates find these normative bounds all the more interesting because, on the aggregate, actual-

ization of stated desires and expectations with respect to family size is well within the realm of possibility for these women. The finding that small families (of 0 or 1 child) are virtually excluded from serious consideration suggests the possibility to the Toronto researchers (Balakrishnan, 1975:13) that the normative range of fertility does not yet include voluntary childless families or families with one child.

Distributions of responses to the three parity questions are examined by Balakrishnan et al. (1975:15-16) when age and religion are controlled. As in the U.S., the means for all three measures are higher for Catholics than for non-Catholics. Unlike in the U.S. where Catholics, regardless of level of actual fertility, expect an additional one or more children, in Toronto the expected increment in family size is only approximately half as great. This might reflect the greater prevalence of oral contraception among Toronto Catholics than has been true for American Catholics. Mean ideal and desired parity tend to increase with age. This raises the question of responses to these questions possibly being rationalizations of actual fertility experience. Balakrishnan et al. (1975:15) discount this possibility, without entirely dismissing it, ". . . consistent with the view that the upward trend of desired fertility with age is not wholly a rationalization of actual fertility is the fact that expected fertility does not vary with age in any uniform way." Thus, it does not seem to be the case that older women desire larger families because they expect their own families to be large. Rather, they seem to prefer larger families than they actually expect.

The Toronto researchers examine, in the same way as Ryder and Westoff (1971), the pattern of responses to the four family size orientation questions by analyzing the non-random proportions giving the same response to any pair of questions. Results similar to those found in the 1965 N.F.S. were found. The strongest relationship is between current and expected, as in the U.S. The relationship between ideal and desired is stronger in Toronto in 1968 than in the U.S. in 1965. The other Toronto relationships essentially duplicate the U.S. findings. The vast majority of respondents, regardless of subgroup membership, tend to give the same answers to questions on ideal and desired family size. Examination of the distributions of these two measures reveals that the concepts function somewhat independently of one another, in spite of the high probability of the same response to both questions. Below and above the constricted 2-4 child preference range, there is a strong tendency toward divergence. "Almost all persons who desire less than two children put the ideal number for an average Canadian family at two or above. Conversely, two-thirds of those whose desired number of children exceeds the two to four range see the ideal size as something smaller" (Balakrishnan _et al_., 1975:17).

The Toronto analysis of the role of background variables in family size preferences focuses almost exclusively on fertility expectations. Many of the important relevant findings have been reported earlier in Section 2.4.2. Some which have particular relevance to the normative range question deserve summarization here. Regular church-goers were found to have consistently higher family size expectations than less religious people regardless of religion

(Balakrishnan et al., 1975:21). This contrasts with previous findings in the U.S. where church attendance was found to make a difference in fertility only among Catholics (Freedman et al., 1959:201-208). Although actual fertility of Catholics and Protestants in Toronto differs substantially, ultimate expected family size for the two groups is similar. Nativity makes a difference in family size expectations with women born in Western Europe having the lowest expectations, followed by women born in Eastern Europe and in the Mediterranean. Canadian-born women have larger desired family sizes than any major immigrant group (Balakrishnan et al., 1975:32).

4.3 Interrelations Among Ideal, Desired, Expected and Actual Family Size

In Edmonton, the means for ideal, desired and expected family size are not substantially different from one another, as shown in Table 4.1. The means for all three measures, however, are lower than in Toronto in 1968 and substantially lower than those found in the U.S. in 1965. The largest discrepancies occur in mean ideal family size where the Edmonton mean is .36 children higher than the Toronto mean and .64 higher than the U.S. mean. The pattern of increasing standard deviations from ideal to desired to expected to actual is found in all three studies. The consistent and moderately substantial decline in the standard deviation for ideal family size from 1965 to 1968 to 1973-74, although taken from different samples, could reflect a convergence of ideal family size over this period. This possibility will be examined further later on in this chapter.

Table 4.2 presents the percentage distribution by parity of four measures of family size orientation. It is of interest to

Table 4.1 Mean ideal, desired, expected and actual family size and standard deviations for U.S. (1965), Toronto (1968) and Edmonton (1973-74)

	Ideal	Desired	Expected	Actual
U.S. (1965)[1]				
Mean	3.29	3.29	3.24	2.76
S.D.	1.07	1.43	1.76	1.89
Toronto (1968)[2]				
Mean	3.01	3.07	2.82	2.26
S.D.	0.95	1.18	1.46	1.61
Edmonton (1973-74)				
Mean	2.65	2.92	2.71	1.72
S.D.	0.84	1.35	1.60	1.86

[1]Source: Ryder and Westoff, 1971:28.

[2]Source: Balakrishnan *et al.*, 1975:12

Table 4.2 Percentage distribution of four parity measures: ideal, desired, expected and actual

Parity	Ideal	Desired	Expected	Actual
0	0.0	1.9	8.0	35.3
1	1.6	2.3	5.8	15.0
2	51.0	46.4	38.7	19.9
3	30.5	15.8	22.5	15.0
4	15.2	26.2	14.7	7.9
5	1.4	2.9	5.4	4.3
6	0.3	3.5	2.7	1.3
7+	0.1	1.0	2.2	1.5
Mean	2.65	2.92	2.71	1.72
Median	2.45	2.49	2.43	1.48

note that, in the Edmonton sample, unlike in Toronto and the U.S., the most likely value for ideal, desired and expected family size is 2. This is followed by 3 for ideal (4 first followed by 3 in U.S.; 3 first followed by 2 in Toronto). For desired family size in Edmonton, the second likely choice is 4 (2 followed by 4 in U.S.; 2 followed by 3 in Toronto), indicating a bimodality similar to that found in the U.S. but not in Toronto. This apparent bimodality will be discussed specifically at the conclusion of this section. For expected family size, 2 is the most likely choice followed by 3 in all three studies. A comparison of actual family size is not particularly revealing since the peculiar age distribution of each sample largely determines actual reproductive performance by the time of the survey.

The clear preference for the 2-4 range noticed in the Toronto data is apparent in Edmonton as well, as shown in Table 4.3. For ideal family size, 96.7 percent in Edmonton fall within the 2-4 range compared with 96.0 percent in Toronto and 91.9 percent in the U.S. For desired and expected family size, however, the 2-4 range is slightly less popular in Edmonton than in Toronto but more popular than in the U.S. Although the overwhelming majority of Edmonton respondents have family size preferences within the 2-4 range, there is greater uniformity in ideal family size than in desired and expected and greater uniformity in desired than expected. A smaller proportion of Edmonton women have ideal and expected family size in the higher (5 or more) parities than women in Toronto or in the U.S. For desired family size, similar proportions of Edmonton and Toronto women wish to have five or more children but both

Table 4.3 Percentage distribution of ideal, desired and expected family size by parity for U.S. (1965), Toronto (1968) and Edmonton (1973-74)

Parity	U.S. (1965)[1]	Toronto (1968)[2]	Edmonton (1973-74)
Ideal Family size			
0-1	5.0	0.5	1.6
2-4	91.9	96.0	96.7
5+	7.6	3.5	1.8
Desired Family size			
0-1	3.9	2.4	4.2
2-4	83.3	90.6	88.4
5+	12.8	7.0	7.4
Expected Family size			
0-1	10.7	11.7	13.8
2-4	71.2	79.2	75.9
5+	18.1	9.1	4.9

[1]Source: Ryder and Westoff, 1971:28.

[2]Source: Balakrishnan _et al_., 1975:12.

Canadian samples have lower proportions in this category than in the U.S. Although the proportion of Edmonton women indicating very small ideal family size (1 or less) is lower than in the U.S., it is higher than in Toronto. Larger proportions of women in Edmonton indicate low parity desires and expectations than in Toronto or in the U.S.

The basic similarity of the means for the three measures of family size orientation conceals much variability among major religious and educational groups, as shown in Table 4.4. Catholics consistently indicate higher mean ideal, desired and expected family size than Protestants. For both religious groups, mean desired parity exceeds ideal and expected. For Catholics, however, expected parity is higher than ideal parity. A pattern similar to that for Catholics occurs for women who are classed as neither Catholic nor Protestant. The largest difference in means between Catholics and Protestants occurs for expected family size where Catholics expect .57 more children than Protestants. This is puzzling particularly given the high level of usage of modern contraceptive techniques (62.8%) in the Edmonton sample. The smallest difference between the two religion groups occurs for ideal family size. Looking at education irrespective of religion, there is a tendency for family size ideals and expectations to decrease with increased education. For desired family size, however, those women with some university have desires similar to those with 9-13 years education. Women with post-secondary education but no university have the smallest desired family size. The effect of education on family size expectations is particularly striking with women having some

Table 4.4 Mean ideal, desired, expected and actual family size by major religion category and education of wife

	Total	Protestant	Catholic	Others
Ideal				
Total	2.65	2.57	2.81	2.60
0-8 years	3.20	3.06	3.22	3.48
9-13 years	2.66	2.65	2.73	2.52
Post-secondary (no university)	2.65	2.50	2.83	2.85
Some university	2.40	2.33	2.69	2.25
Desired				
Total	2.92	2.79	3.18	2.81
0-8 years	3.39	3.27	3.25	4.07
9-13 years	2.92	2.76	3.19	2.85
Post-secondary (no university)	2.81	2.77	3.00	2.38
Some university	2.91	2.74	3.54	2.66
Expected				
Total	2.71	2.47	3.04	2.76
0-8 years	3.39	3.39	3.14	4.28
9-13 years	2.85	2.67	3.16	2.81
Post-secondary (no university)	2.62	2.32	3.04	2.61
Some university	2.14	1.93	2.45	2.35

university expecting 1.25 fewer children than women with 0-8 years of education. For ideal family size, the comparable difference is .80. For desired, it is .48. The effect, however, is possibly confounded by age.

For both Catholics and Protestants in Edmonton the general pattern is declining ideal, desired and expected family size with increasing education, unlike in the U.S. where an inverse relationship of education and intended parity did not hold for Catholics. The one notable exception is desired family size for Catholic women with some university which is higher than for any other educational group. For ideal and expected family size, increased education has a more negative effect for Protestants than for Catholics. A more pronounced negative relationship of education to expected family size is noticed for both religious groups than was apparent for ideal family size. Protestant women with some university expect 1.46 fewer children than Protestant women with 0-8 years education. The comparable difference for Catholics is .69. Desired family size on the average is higher than expected family size for all Edmonton women. For Protestant women with 0-8 years education and for Catholic women with some post-secondary education, however, the opposite holds. For both Catholic and Protestants, desired exceeds expectations most in the group of women with some university experience. Here, Catholic women desire 1.09 more children than they expect to have. Non-Catholics desire .81 more than they expect.

The next question deserving attention involves the degree to which a pattern is apparent in the responses to the four questions on

family size orientation. Focusing on this question allows examination of the structure of interrelationships among the measures. Using Ryder and Westoff (1971:29-30) and Balakrishnan and his co-researchers (1975:17) as guides, the non-random proportions that give the same responses to pairs of questions are calculated for the Edmonton sample. Results are shown in Table 4.5. The strongest relationship is between desired and expected followed closely by expected and actual. The latter is not surprising since actual fertility is likely to comprise a considerable fraction of expected fertility. In both the U.S. in 1965 and Toronto in 1968, however, the strongest relationship occurred between expected (intended in the U.S.) and actual family size followed by ideal and desired. In Edmonton the ideal-desired relationship ranks third.

The high ratio between desired and expected parity in Edmonton suggests that for a large proportion of women, the family size they desire, if all were well, is the number that they in fact expect. This may reflect a confidence that they can meet their desires without difficulty either because their social and economic circumstances are comfortable enough to not inhibit their reproductive desires or their contraceptive use is sufficiently effective that they can anticipate not overshooting their desired family size. The third alternative is that they are rationalizing their desires in the interview reports to make it appear that they expect exactly the family size they want. Although it cannot be discounted that rationalization of this sort is occurring for some respondents, it seems unlikely that Edmonton women would engage in this type of rationalization to a greater degree than their Toronto or American sisters.

Table 4.5 Non-random proportion giving the same response to various pairs of fertility questions

Questions	Proportion (%)
Ideal and desired	36.8
Ideal and expected	29.4
Ideal and actual	10.6
Desired and expected	58.1
Desired and actual	20.0
Expected and actual	50.9

Despite the differences in the relative magnitude of the ratios between pairs of questions on family size orientations in Edmonton compared with the U.S. in 1965 and Toronto in 1968, the pattern emerging in the Edmonton data basically supports the proximity findings of the other two studies. If the four fertility questions are ranked from most idealized to least, i.e. ideal, desired, expected and actual family size, the three highest ratios are found for adjacent questions. The ratio of desired to expected ranks first, followed by the ratio for expected and actual, followed by the ratio of ideal to desired. Non-adjacent questions reveal lower ratios. The ratio of ideal to expected is in fourth position, followed by desired-actual and last with a very low ratio is ideal-actual. These latter two questions on the above scale are the most separated from each other. This suggests that responses to the four family size orientation questions do indeed form a definite scale.

The difference between non-random proportions giving the same response for ideal and desired family size in Toronto and Edmonton is striking. In Toronto this ratio is .60 with "the great majority . . . regardless of education, occupation, income, religion or duration of marriage give the same number in response to both questions" (Balakrishnan _et al_., 1975:17). In Edmonton the comparable ratio is .368. The discrepancy between the findings of the two studies is of particular interest since differences in responses to the two questions may reflect important differences between general norms and personal desires regarding family size. It could

be speculated that the different ratios are attributable to the slightly different wording of the desired family size questions in the Toronto and Edmonton studies. In Toronto, desired number of children is determined by the question: "If you were to start married life over again, how many children in all would you want to have?" (Balakrishnan et al., 1975:9). In Edmonton, the desired family size question is: "If you could now choose exactly the number of children to have altogether in your lifetime, how many boys and how many girls would you choose?" Although the connotations of these questions differ, the means for the two, as reported in Table 4.1, do not differ substantially.

On the other side of the ratio is ideal family size. Here the question asked in Edmonton is virtually identical to that asked in Toronto: "What do you think is the ideal number of children for the average Canadian family?" In Edmonton, the word "today" was appended to the end of the question. The means for the two studies, as shown in Table 4.1, are substantially different. The result is that in Toronto, mean desired exceeds mean ideal by only .06; in Edmonton, desired exceeds ideal by .27. This suggests a greater discrepancy between general norms and individual desires in Edmonton than in Toronto. It could be that Edmonton women have less of a tendency to regard themselves as typical of the average Canadian. An alternative explanation might be that the general economic prosperity of Alberta associated with a "boom" psychology leads to higher family size desires. The data do not permit full examination of this hypothesis. Yet another possible explanation, to be explored

more fully later on in this chapter, is that there has been a substantial downward revision in family size ideals and that Edmonton women, had they been interviewed at the time of the Toronto study, might have expressed family size ideals similar to those held by Toronto women.

Table 4.6 reports means for each of three family size orientations for specified values of the other two. As found in the U.S., expected family size varies more sharply with desired family size than with ideal. This is where the similarity of pattern ends, however. In Edmonton, desired family size varies more directly with expected than with ideal. In the U.S., as reported in Section 4.2, desired family size varies equally with intended and ideal. It is apparent from Table 4.6 that in Edmonton, the pattern for mean ideal family size is least consistent. Within expected parity 3, as desired parity increases from 2 to 4 there is a small but consistent rise in mean desired parity. A similar consistent but more substantial increase is apparent within desired parity 3 for expected parities 2 to 4. All other relationships seem inconsistent. The highest mean ideal family size (3.02) occurs for expected parity 4 and desired parity 3. The lowest mean ideal (2.35) occurs for desired parity 2 and expected parity 4. When desired parity is 3 or 4 and expected parity is 3 or 4, the mean ideal exceeds the overall sample mean ideal. When desired parity is 2 for expected parities 2, 3 and 4, mean ideal is less than the overall mean ideal. The same is true when desired parity is 3 and expected parity is 2. Ideal family size, to some extent, seems to vary with both desired and expected family size within the 2-4 range, but not consistently. The previous

Table 4.6 Mean desired, expected, and ideal family size for selected values of the other two

Mean Desired Family Size

	Expected Family Size		
Ideal Family Size	2	3	4
2	2.23	3.12	3.37
3	2.13	3.04	3.99
4	2.66	3.12	3.83

Mean Expected Family Size

	Desired Family Size		
Ideal Family Size	2	3	4
2	2.15	2.82	3.34
3	2.14	2.91	3.63
4	2.48	2.76	4.02

Mean Ideal Family Size

	Desired Family Size		
Expected Family Size	2	3	4
2	2.48	2.45	2.75
3	2.64	2.72	2.74
4	2.35	3.02	2.93

finding of proximity is supported for desired and expected family size but it appears that ideal family size is closely allied, within the 2-4 range, with both desired and expected parity.

The closeness of the relationship between desired and expected parity as indicated by Table 4.6, as well as by the large non-random proportion of respondents that give the same response to these two questions suggests the need to determine whether the two concepts function independently of one another. Table 4.7 shows that the vast majority of Edmonton women have a desired family size within the 2-4 range and of these the overwhelming majority also have an expected family size within this range. For those who desire fewer than two children, the majority (77.2%) have expectations of having two or fewer as well. For those who desire more than four, however, 62.4 percent expect four or fewer. A surprising 41.6 percent who desire more than four expect to have fewer than two children. From Table 4.8 it is clear that the modal desired family size is in the 2-4 range regardless of the values of expected family size. When expected family size is less than two, 54.7 percent desire two or more children. At the opposite end of the scale, of those who expect more than four children, 60.2 percent desire fewer than four. Four conclusions seem obvious here. First, below the normative range, desired parity seems to dictate expected parity. Second, above the normative range of 2-4, the two concepts diverge considerably. Third, mean expected family size is more constant across ranges of desired family size than the reverse. Fourth, it seems justified to assume that the two concepts of desired and expected family size function somewhat independently of one another, particularly in the ranges above the

Table 4.7 Percentage distributions and means of expected family size for specified categories of desired family size

	Desired Family Size		
	Less than 2	2-4	Greater than 4
Expected Family Size			
0	27.9	1.4	40.9
1	49.3	4.7	0.7
2-4	14.7	88.4	20.8
5+	8.1	5.6	37.6
Mean	1.56	2.72	2.94
Total	38	819	189

Table 4.8 Percentage distributions and means of desired family size for specified categories of expected family size

	Expected Family Size		
	Less than 2	2-4	Greater than 4
Desired Family Size			
0	12.0	0.6	2.4
1	23.3	0.1	0.9
2-4	49.3	96.8	56.9
5+	5.4	2.4	39.9
Mean	2.03	2.79	4.34
Total	134	737	174

normative.

The final topic to be considered in this section is the observed bimodality (Table 4.2) in desired family size in Edmonton. In an effort to examine the nature of this bimodality, Table 4.9 compares women with completed families (where expected parity equals current parity) and those with incomplete families for Catholics and Protestants. A clear tendency toward preference for 2 or 4 children is apparent for both women with completed families and those with incomplete families. The total percentage desiring 2 or 4 children does not differ substantially for women with completed families (71.4%) and women with incomplete families (74.2%) but in the latter case the mode at 2 is stronger. Bimodality is less apparent for women with families not yet completed.

For both Catholics and Protestants with completed families, 2 and 4 are the most popular choices, with 3 in each case being less than one-half as popular as 4. The same is true for Others except the difference between 3 and 4 is not as large. Among those respondents with incomplete families bimodality disappears for Protestants and Others with the emergence of a strong mode at 2. For Catholics, however, bimodality continues with an increase in the popularity of choices 3 and 4 and a small decline in the proportion selecting 2 as their desired parity. The two sources of bimodality in desired family size in Edmonton appear to be the clear intolerance among women with completed families for 3 children and the relatively high proportion of Catholic women with incomplete families who desire 4 children.

Table 4.9 Percentage distribution of desired family size women with completed fertility (expected parity = current parity) and those with fertility not completed by religion of wife

Desired Family Size	Total	Protestant	Catholic	Others
	Fertility Completed			
0	2.5	1.8	3.1	4.0
1	3.1	2.3	3.2	6.7
2	41.1	42.5	39.4	40.3
3	14.2	15.2	12.8	13.8
4	30.3	31.2	30.6	24.6
5	3.4	4.2	3.1	0.0
6	4.3	2.4	5.8	8.9
7+	1.2	0.4	2.1	1.7
	100.0 (503)	100.0 (267)	100.0 (180)	100.0 (56)
	Fertility Not Completed			
0	0.4	0.0	0.7	1.4
1	1.3	1.9	0.0	1.8
2	52.5	60.5	34.2	63.2
3	18.1	17.3	23.4	10.3
4	21.8	18.3	32.6	12.7
5	2.4	1.8	2.8	3.8
6	2.5	0.4	4.3	5.4
7+	0.9	0.1	2.1	1.3
	100.0 (415)	100.0 (216)	100.0 (133)	100.0 (67)

In seeking an explanation for the bimodality in desired family size, the possibility that it is a function of the way in which the question was asked cannot be overlooked. It is of note that in Toronto where the desired family size question refers to total number of wanted children regardless of sex preferences, no such bimodality is found. In Table 4.9, it is apparent that for total women with completed families and for Catholic and Other women with both complete and incomplete families, there is a tendency to cite 6 more frequently than 5 or 7. This may be attributable, at first glance, to the well-known preference for even numbers. However, it is clear from Table 4.2 that no such tendency is apparent for the other questions on family size orientation. The conclusion which seems obvious, then, is that women, particularly Catholics and women who are neither Catholic nor Protestant, when asked how many children they want by sex tend to give equal responses for each sex. If this is true, then it might be that Edmonton data on desired family size are slightly inflated. The interesting question, which unfortunately must remain unanswered, is whether use of the same desired family size question in Edmonton as was used in Toronto would have yielded a mean desired family size for Edmonton which would be lower than the Toronto mean by a greater margin than it is presently.

4.4 The Cohort Pattern of Normative Fertility

This section intends to examine family size orientations by cohort and to consider the interrelationships among the four measures of family size orientation within cohorts. It is a first descriptive look at intercohort differentials in the normative range

of fertility. The following hypothesis is tested in this section: there has been a downward revision in family size norms with younger cohorts indicating smaller ideal, desired, expected and wanted family sizes than older cohorts. No attempt is made in this section to explain differences. The effect of background factors on inter-cohort differentials in family size orientations is the subject of the next section.

Table 4.10 compares the three family size orientation measures for the seven synthetic cohorts developed and described in Section 3.6. For all three measures, a decline is apparent from the oldest cohort to the youngest. For desired family size the observed decline is consistent, with each subsequent cohort having a lower mean than the one that preceded it. The overall decline is most dramatic for desired family size (.87) but substantial as well for expected family size (.75). For ideal parity, although the overall pattern is a decline (.09), two cohorts show a slight increase. The decline from cohort 1 to cohort 6 is .44. These findings support the hypothesis that there has been a downward revision in family size norms with younger cohorts having smaller ideal, desired and expected family sizes than older cohorts.

Table 4.11 permits examination of the intercohort pattern of wanted completed fertility. Two measures of wanted completed fertility, as detailed in Appendix A, are compared. To summarize briefly, the first measure is based on questions asked with respect to each pregnancy. Total current wanted fertility is obtained by subtracting the sum of births "not at all" wanted by the respondent from actual births. Current wanted fertility, following elimination of births not wanted but followed by a wanted birth or births, is then

Table 4.10 Mean ideal, desired and expected family size by cohort

Cohort	Ideal	Desired	Expected
1	2.85	3.44	2.86
2	2.80	3.17	3.18
3	2.67	3.16	2.80
4	2.76	3.12	2.78
5	2.59	2.90	2.75
6	2.41	2.58	2.46
7	2.76	2.57	2.43

Table 4.11 Mean wanted completed fertility (two measures) by cohort

Cohort	Wanted Completed Fertility 1	Wanted Completed Fertility 2
1	2.04	2.90
2	4.30	3.45
3	2.68	2.50
4	2.93	2.65
5	2.82	2.62
6	2.54	2.39
7	2.47	2.39

added to additional expected births. Wanted completed fertility 2 is based on a series of questions, outlined in Appendix A, which seek to discern whether the respondent would prefer to have borne fewer children. If she answers "yes" to this question and reports the number she would prefer to have borne in a subsequent question, this latter number is taken to be her total current wanted fertility. As was done in the case of wanted completed fertility 1, total current wanted fertility is then added to additional expected births to obtain another measure of completed wanted fertility.

Although the pattern is not consistent by cohort, the trend for both measures of wanted completed fertility appears to be a decline with cohort. Younger cohorts tend to reveal smaller wanted family sizes than the older. For both measures, cohort 2 has the largest wanted completed family size and cohorts 6 and 7 the smallest. For wanted completed fertility 1, the decline in means from cohort 2 to 7 is 1.83 points. For the second measure, the comparable decline is 1.06. From cohort 1 to cohort 7 a decline of .57 is apparent for the first measure and a decline of .51 for the second. Two inconsistencies in the pattern of decline for both measures are apparent: (1) a rise from cohort 1 to cohort 2; and (2) a rise from cohort 3 to cohort 4.

4.5 Background Factors and Intercohort Differentials

It has become a tradition in demography and in sociology to examine differences on the basis of various background variables, sometimes known as "face-sheet" or structural variables. As was

pointed out in Section 2.2, analysis of fertility differentials solely on the basis of structural differentials is becoming increasingly insufficient as fertility patterns converge. Yet, it would appear foolhardy to ignore the role of these background variables, in light of the rather strong evidence reported in the earlier chapters and in Section 4.2 that these variables do indeed remain important in explaining fertility differences.

In this thesis, background variables which have been documented as valuable in explaining fertility differences are used as predictor variables to examine the cohort pattern of normative fertility. The intercohort pattern of normative fertility could be seen as the result of the particular mix of background variables which comprise the synthetic cohorts rather than an actual difference in fertility by cohort. It, therefore, remains to be seen whether these differences persist after controlling for the important background variables. The background variables under consideration here are those which have been used most frequently and successfully in describing fertility variations in other studies: religion, religiosity, nativity, ethnicity, education, respondent's family size of origin and setting of youthful residence. The theoretical and empirical justification for inclusion of these particular variables has been clearly elucidated in the preceding chapters and sections. For the sake of subsequent analysis, these seven background variables will be viewed as having equal status.

Emphasis is placed on background variables of the respondent rather than her partner. The reasons for this are clear and obvious but it does not negate or diminish the relevance of the same

variables in fertility of partners or the relevance of the partner's background in the fertility of respondents. The orientation in this analysis is fertility of respondents, not partners, which in most, but not all cases, is the same. The analysis further rests on reported fertility experience and aspirations of women respondents who only report what they perceive as partners' experiences and aspirations. Hence, it is believed that reliance on "hearsay testimony" could produce less reliable measures for partners. Lastly, as outlined in Section 3.2, not all respondents are currently married or married to the same partner they had during parts of their childbearing, so consideration of background variables and fertility of partners as well as respondents could reduce the sample size by some 15 percent.

As outlined in Section 3.8, two analytic approaches are used to examine the intercohort pattern of normative fertility. The first approach controls and/or adjusts for differences among cohorts in the various measures of family size orientation and completed wanted fertility to determine whether cohort differences disappear once background variables are taken into consideration. The technique employed is Multiple Classification Analysis. The effects of background variables taken separately are examined first, followed by an analysis of all variables acting together. The second approach is to introduce the ordinal background variables as independent variables in a multiple regression model applied separately to each cohort for each measure of family size orientation and wanted completed fertility. The intent here is to ascertain whether variables have similar effects in different cohorts.

Before proceeding, it is necessary to test the degree of intercorrelation among the predictor variables. This is a necessary precondition to the testing of interactions among predictor variables by analysis of variance. Table 4.12 shows that there is no instance of high intercorrelation among background variables. These variables, then, are appropriate for an analysis of variance examination prior to submission to MCA.

4.6 Background Variables Considered Separately

The first step in this part of the analysis is to examine the separate effects of background variables on the five dependent variables: ideal, desired and expected family size and wanted completed fertility 1 and 2. A secondary purpose of this analysis is to test interactions among predictor variables prior to further analysis by Multiple Classification Analysis of the effects of all predictor variables acting together.

Table 4.13 shows the zero-order association of each of the background variables under consideration with ideal, desired and expected family size and wanted completed fertility 1 and 2, each in turn. For ideal family size, cohort is less important than education but more important than all other background variables as an explanatory variable. Cohort is the most significant explanatory variable, followed closely by religiosity, in desired family size. For expected family size, cohort is tied with education as the critical explanatory variable, followed closely by family size of origin. For the two measures of wanted completed fertility, the patterns are somewhat less obvious. Cohort ties with education as

Table 4.12 Correlation coefficients among background variables

	Correlations							
	1	2	3	4	5	6	7	8
1. Cohort	1.0							
2. Religion	x	x						
3. Ethnicity	x	x	x					
4. Religiosity	-.08	x	x	1.0				
5. Education	-.11	x	x	.04	1.0			
6. Family size of origin	-.06	x	x	-.00	.09	1.0		
7. Residence in youth	.02	x	x	-.10	.15	.14	1.0	
8. Nativity	.06	x	x	.07	-.04	-.00	.05	1.0

X Correlation coefficients are not calculated for nominal variables.

Table 4.13 Association (Eta) between selected background variables and ideal, desired, expected family size and wanted completed fertility 1 and 2

Independent variables	Eta's*				
	Ideal F.S.	Desired F.S.	Expected F.S.	Wanted Completed 1	Wanted Completed 2
1. Cohort	.19	.26	.20	.18	.14
2. Religion	.13	.13	.16	.15	.12
3. Ethnicity	.13	.08	.12	.14	.21
4. Religiosity	.15	.23	.14	.15	.12
5. Education	.23	.11	.20	.18	.19
6. Family size of origin	.17	.19	.19	.19	.19
7. Residence in youth	.12	.04	.06	.05	.05
8. Nativity	.07	.02	.01	.01	.05

* Eta is the square root of the ratio of the sum of squares based on the unadjusted deviation for a predictor to total sum of squares. It is the correlation ratio and indicates the capacity of the predictor variable to explain variation in the dependent variable.

the second most important explanatory variable in wanted completed fertility 1, exceeded only slightly by family size or origin. For wanted completed fertility 2, cohort is third in importance with ethnicity in first place and education tied with family size of origin in second. It would seem that cohort, although varying in significance, is a basic variable in explaining family size preference as well as wanted completed family size.

Tables 4.14 to 4.23 present for each measure of family size preference and the two measures of wanted completed fertility, variation in the measure by background variables followed by two-way classifications of cohort with each of the seven background variables in turn. In the two-way classification tables, cohort deviations from the grand mean are shown as well as cohort deviations adjusted additively for the effect of each background variable taken separately. The analysis is supported by analysis of variance tables appearing in Appendix C, Tables C.1 to C.90.

From Table 4.14, it can be seen that the variables which have the largest influence on ideal family size are education, family size of respondent's family size of origin and cohort. The ranges for these three variables are .69, .54 and .47 respectively. The amount of variation in ideal family size explained by education is significant at the .001 level, after cohort is controlled (Table C.3). After controlling for cohort, however, the amount of variance explained by family size of origin loses statistical significance (Table C. 1). The variance explained by cohort remains significant at .001 after controlling for each of the seven background variables (Tables C. 1 to C. 7).

In examining the Multiple Classification Analysis tables (Tables 4.15, 4.17, 4.19, 4.21 and 4.23), the interest lies in seeing whether the synthetic cohorts are affected similarly by the background variables under consideration. In Table 4.15, it is apparent that the general pattern is for earlier cohorts to have higher ideal family size than later cohorts but the pattern is not consistent. After controlling for each of the seven background variables in turn, cohort 4 has the largest ideal family size and cohort 6 the smallest. Cohort 1 closely follows cohort 4 in ideal family size both before and after adjustments for the seven background variables. Cohorts 3 and 7 hover closely around the grand mean, both before and after adjustment for each background variable.

The general effect of adjusting for each of the seven background variables is to increase the variability in ideal family size across cohorts. For each variable, cohorts 6, 4, and 1 are affected most by the adjustment and cohorts 7, 3, and 2 are affected least. The beta weights in Table 4.15 show that when each background variable is acting together with cohort, except for education, cohort has a greater influence on ideal family size. The finding that in all but two instances (cohort 3 when adjusted for religiosity and when adjusted for education) the deviation from the grand mean increases once adjustment is made for each background variable, indicates that cohort is a variable of note in explaining variation in ideal family size.

From Table 4.16, it is clear that the background variables having the greatest influence on desired family size are family size of origin, cohort and religiosity. The ranges for these variables

are .87, .79, and .67 respectively. After controlling for cohort, family size of origin remains significant at .027 and religiosity at .001 (Tables C. 19 and C. 24). Cohort, after controlling for each background variable separately, remains significant at .009 or higher (Tables C. 19 to C. 25). It is notable that for each variable, except education and residence in youth, the range of values for desired family size is larger than for ideal family size. This lends further support to the notion that there is more accord on ideal family size than on desired family size. The greatest discrepancy between desired and ideal family size occurs for respondents with some university. As suggested earlier, this is probably due to the very high desired family size of Catholic women with some university experience. For residence in youth, although for all categories desires exceed ideals, the greatest difference occurs for women who have spent their youth in cities. These women indicate a lowered ideal family size relative to other women.

Table 4.17 shows the effects on desired family size of adjusting for each background variable in turn. As was the case for ideal family size, the general effect of adjustment is to substantially increase the variability among cohorts in desired family size. For all but family size of origin, the largest changes in deviation due to adjustment occur in extreme cohorts, cohorts 1, 2, 6 and 7, thereby widening the differences. The least affected are cohorts 5 and 3. For family size of origin, cohorts 7 and 4 are most affected by adjustment and cohorts 5 and 1, least affected. This indicates that family size of origin influences desired family size

most in cohorts 7 and 4. The beta weights shown in Table 4.17 indicate that when each background variable acts together with cohort, cohort has the greater influence on family size desires.

In Table 4.18, it is clear that those variables accounting for the greatest variability in expected family size are cohort, family size of origin and education. The ranges for these three variables are 1.46, 1.22 and 1.02 respectively. After controlling for each background variable, cohort remains statistically significant at .005 or higher (Tables C. 37 to C. 43). Family size of origin, after controlling for cohort, is significant at .004 (Table C. 37). Education remains significant at .001 after controlling for cohort (Table C. 39). For the three variables which account for the greatest variation in expected family size as well as for ethnicity, the degree of variation is greater in expected family size than in desired and greater in desired than in ideal. For religiosity, the range of values for expected and desired remains unchanged. This suggests that expected family size, being less uniform across categories, has a greater capacity to be influenced by group membership than desired or ideal family size. It also lends support to the hypothesis that expected family size is not converging to the same degree as desired or ideal family size.

Table 4.19 shows wide variations in deviation from the grand mean of expected family size across all background variables both before and after adjustments. Once again, the general effect of adjustment for each background variable is to increase the variability among cohorts. Cohort 2 consistently shows an expected family size much higher than the grand mean for the sample (ranging from 2.25

children above the mean after adjusting for religion to 2.13 above the mean after adjusting for education). Cohort 7 consistently shows the lowest expected family size. This finding generally lends support to the hypothesis that expected family size is lower in more recent cohorts than in older cohorts. The pattern, although not consistent, is a downward revision of expected family size. The cohort most affected by adjusting for each background variable is cohort 2. Cohorts 6 and 7 are also substantially affected, followed by cohort 1. The least affected cohorts are those in the middle with expected family sizes closest to the grand mean. As was the case with desired family size, the beta weights indicate that cohort, when considered together with each of the background variables in turn, has more influence on expected family size than any other variable.

From Table 4.20, it is apparent that the same three variables as were important in accounting for variability in expected family size are important in explaining variation in wanted completed fertility 1 but the rank orders are changed somewhat. This is reasonable given that expected family size is a basic component of wanted completed fertility 1. Family size of origin of respondent, cohort, and education account for the greatest variability in wanted completed fertility 1 with ranges of 1.29, 1.25 and .85, respectively. Family size of origin remains statistically significant at .002 after controlling for cohort (Table C. 55). Cohort is significant at .032 or higher after controlling for each background variable in turn (Tables C. 55 to C. 61). The variations in values of wanted completed fertility 1 are similar, but lower than those for expected family size.

The pattern of deviations from the grand mean for wanted completed fertility 1, shown in Table 4.21, is very similar to that for expected family size. Cohort 2 shows deviations for wanted completed fertility 1 ranging from 1.97 above the grand mean, when adjusted for religion, to .99 above the grand mean when adjusted for ethnicity. Cohort 7 is consistently below the grand mean by approximately .5. The beta weights of each background variable acting together with cohort show that this variable is more important in influencing wanted completed fertility 1 than any other background variable.

For wanted completed fertility 2, as seen in Table 4.22, cohort, family size of origin and education account for most variability across cohorts with ranges of 1.27, 1.18 and 1.11, respectively. Once again, these three variables are the important ones, as they were in expected family size and wanted completed fertility 1, but the rank orders differ. Cohort is statistically significant in explaining the variance in wanted completed fertility 2 at .006 or higher after controlling for each background variable in turn (Tables C. 73 to C. 79). Family size of origin remains significant at .003 after controlling for the effect of cohort (Table C. 73). The statistical significance of education is .001 after controlling for cohort (Table C. 75).

As for wanted completed fertility 1, the pattern of deviations from the grand mean for wanted completed fertility 2 closely resembles that for expected family size (refer to Table 4.23). Cohort 2 consistently has very high deviations for wanted completed fertility

Table 4.14 Variation in ideal family size by cohort, religion, ethnicity, religiosity, education, family size of origin, residence in youth and nativity. (Grand mean = 2.67)

Cohort		N	Religion		N	Ethnicity		N	Religiosity		N
1	3.07	92	Non-Catholic	2.60	403	British	2.58	214	(Religious attendance during past month)		
2	3.90	48	Catholic (and Orthodox)	3.11	269	German	2.73	94			
3	2.92	105	Others	2.66	110	French	3.43	68	None	2.59	470
4	2.95	114				Irish	3.15	59	1-3 times	2.89	158
5	2.68	117				Other W. Eur.	2.79	116	4 or more	3.26	150
6	2.47	150				Ukrainian	2.69	97			
7	2.44	156				Other E. Eur.	2.65	55			
						Other	2.69	58			
Range	1.46			.51			.85			.67	

Education		N	Family Size of origin		N	Residence in youth		N	Nativity		N
0-8 years	3.29	76	1	2.00	13	Rural	2.83	293	Canadian-born	2.80	608
9-13 years (no post-secondary)	2.88	406	2	2.62	65	Town	2.84	186	Foreign-born	2.71	173
			3	2.87	97	City	2.70	291			
			4	2.86	95						
Post-secondary (no university)	2.66	200	5-7	2.90	184						
Some university	2.27	99	8-16	3.22	83						
Range	1.02			1.22			.14			.09	

Table 4.15 Ideal family size by cohort and background variables each in turn. Unadjusted and adjusted deviations by cohort

	Deviations from grand mean (2.67)							
	Religion		Ethnicity		Religiosity		Education	
Cohort	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted
1	.18	.36	.19	.39	.17	.34	.18	.33
2	.11	.22	.12	.25	.12	.19	.11	.13
3	.01	.04	.02	.05	.02	-.01	.01	.00
4	.22	.44	.22	.42	.21	.40	.22	.43
5	-.06	-.14	-.05	-.09	-.06	-.13	-.06	-.13
6	-.25	-.50	-.25	-.50	-.25	-.47	-.25	-.48
7	-.00	.01	-.02	-.06	.00	.04	.00	.05
Range	.47	.95	.47	.92	.46	.87	.47	.92
Beta	Cohort	.183	Cohort	.182	Cohort	.161	Cohort	.164
	Religion	.121	Ethnicity	.117	Religiosity	.117	Education	.177

	Deviations from grand mean (2.67)					
	F.S. of origin		Residence in youth		Nativity	
Cohort	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted
1	.18	.33	.18	.35	.18	.36
2	.06	.09	.09	.15	.13	.25
3	.01	.05	.01	.02	.01	.02
4	.23	.49	.22	.43	.22	.43
5	-.03	-.09	-.06	-.13	-.06	-.12
6	-.31	-.60	-.24	-.47	-.25	-.50
7	.00	-.01	.00	.01	.00	.00
Range	.54	1.09	.46	.90	.47	.93
Beta	Cohort	.179	Cohort	.171	Cohort	.179
	Family size	.162	Residence	.060	Nativity	.027

Table 4.16 Variation in desired family size by cohort, religion, ethnicity, religiosity, education, family size of origin, residence in youth and nativity. (Grand mean = 2.94)

Cohort		N	Religion		N	Ethnicity		N	Religiosity		N
1	3.36	90	Non-Catholic	2.86	402	British	2.77	215	(Religious attendance during past month)		
2	3.36	45	Catholic (and Orthodox)	3.18	265	German	2.87	92	None	2.75	461
3	3.19	104	Others	2.65	105	French	3.19	72	1-3 times	3.00	158
4	3.26	108				Irish	3.28	57	4 or more	3.42	149
5	2.88	121				Other W. Eur.	3.05	112			
6	2.59	152				Ukrainian	2.86	96			
7	2.57	152				Other E. Eur.	2.71	52			
						Other	3.04	55			
Range	.79			.53			.57			.67	

Education		N	Family Size of origin		N	Residence in youth		N	Nativity		N
0-8 years	3.38	69	1	2.50	14	Rural	2.96	287	Canadian-born	2.96	607
9-13 years (no post-secondary)	2.95	409	2	2.87	62	Town	2.91	178	Foreign-born	2.85	164
Post-secondary (no university)	2.81	194	3	2.96	94	City	2.91	295			
Some university	2.85	99	4	2.91	94						
			5-7	3.04	177						
			8-16	3.37	82						
Range	.57			.87			.05			.11	

Table 4.17 Desired family size by cohort and background variables each in turn. Unadjusted and adjusted deviations by cohort

	Deviations from grand mean (2.94)							
	Religion		Ethnicity		Religiosity		Education	
Cohort	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted
1	.42	.82	.40	.80	.42	.82	.42	.82
2	.42	.84	.43	.91	.42	.75	.42	.78
3	.25	.53	.29	.59	.26	.47	.25	.50
4	.32	.64	.27	.50	.32	.61	.32	.63
5	-.06	-.15	-.06	-.14	-.07	-.15	-.06	-.13
6	-.35	-.70	-.36	-.72	-.35	-.65	-.35	-.69
7	-.37	-.72	-.35	-.69	-.37	-.68	-.37	-.72
Range	.79	1.56	.79	1.63	.79	1.50	.79	1.54
Beta	Cohort	.239	Cohort	.239	Cohort	.212	Cohort	.230
	Religion	.130	Ethnicity	.135	Religiosity	.149	Education	.070

	Deviations from grand mean (2.94)					
	F.S. of origin		Residence in youth		Nativity	
Cohort	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted
1	.25	.49	.44	.88	.42	.83
2	.28	.55	.45	.92	.45	.91
3	.31	.62	.21	.43	.25	.52
4	.34	.72	.33	.65	.32	.65
5	-.08	-.18	-.06	-.13	-.06	-.12
6	-.28	-.54	-.35	-.72	-.35	-.72
7	-.37	-.78	-.37	-.73	-.37	-.75
Range	.71	1.50	.82	1.65	.82	1.66
Beta	Cohort	.216	Cohort	.247	Cohort	.249
	Family size	.133	Residence	.023	Nativity	.057

Table 4.18 Variation in expected family size by cohort, religion, ethnicity, religiosity, education, family size of origin, residence in youth, and nativity. (Grand mean = 2.79)

Cohort		N	Religion		N	Ethnicity		N	Religiosity		N
									(Religious attendance during past month)		
1	2.85	88	Non-Catholic	2.59	412	British	2.56	223	None	2.58	476
2	2.78	50	Catholic (and Orthodox)	2.81	274	German	2.68	94	1-3 times	2.71	163
3	2.68	100	Others	2.58	109	French	2.86	70	4 or more	2.88	152
4	2.89	115				Irish	2.77	57			
5	2.61	123				Other W. Eur.	2.66	117			
6	2.42	162				Ukrainian	2.59	100			
7	2.67	157				Other E. Eur.	2.71	56			
						Other	2.82	56			
Range	.47			.23			.30			.30	

Education		N	Family Size of origin		N	Residence in youth		N	Nativity		N
0-8 years	3.11	76	1	2.71	14	Rural	2.72	296	Canadian-born	2.65	619
9-13 years (no post-secondary)	2.68	408	2	2.52	69	Town	2.72	184	Foreign-born	2.74	175
Post-secondary (no university)	2.61	204	3	2.68	98	City	2.58	303			
Some university	2.42	106	4	2.67	100						
			5-7	2.80	183						
			8-16	3.06	77						
Range	.69			.54			.14			.09	

Table 4.19 Expected family size by cohort and background variables each in turn. Unadjusted and adjusted deviations by cohort

	Deviations from grand mean (2.79)							
	Religion		Ethnicity		Religiosity		Education	
Cohort	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted
1	.28	.56	.25	.52	.29	.54	.28	.54
2	1.11	2.25	1.12	2.27	1.12	2.15	1.11	2.13
3	.14	.30	.12	.28	.14	.24	.14	.25
4	.16	.32	.11	.17	.15	.26	.16	.33
5	-.10	-.16	-.08	-.16	-.11	.23	-.10	-.23
6	-.31	-.61	-.30	-.58	-.31	-.56	-.32	-.61
7	-.34	-.69	-.33	-.67	-.34	-.62	-.34	-.63
Range	1.45	2.94	1.45	2.94	1.46	2.77	1.45	2.76
Beta	Cohort	.239	Cohort	.236	Cohort	.208	Cohort	.214
	Religion	.155	Ethnicity	.167	Religiosity	.125	Education	.125

	Deviations from grand mean (2.79)					
	F.S. of origin		Residence in youth		Nativity	
Cohort	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted
1	.25	.53	.30	.59	.28	.57
2	1.09	2.20	1.09	2.17	1.11	2.23
3	.16	.32	.13	.26	.14	.29
4	.08	.22	.16	.33	.16	.34
5	-.08	-.19	-.10	-.19	-.10	-.20
6	-.37	-.71	-.31	-.62	-.31	-.64
7	-.31	-.67	-.34	-.69	-.34	-.69
Range	1.46	2.91	1.43	2.86	1.45	2.92
Beta	Cohort	.233	Cohort	.230	Cohort	.238
	Family size	.139	Residence	.007	Nativity	.049

Table 4.20 Variation in wanted completed fertility 1 by cohort, religion, ethnicity, religiosity, education, family size of origin, residence in youth and nativity. (Grand mean = 2.67)

Cohort		N	Religion		N	Ethnicity		N	Religiosity		N
									(Religious attendance during past month)		
1	2.93	92	Non-Catholic	2.49	403	British	2.49	214	None	2.48	470
2	3.65	48	Catholic (and Orthodox)	2.99	269	German	2.63	94	1-3 times	2.75	158
3	2.71	105	Others	2.56	110	French	3.22	68	4 or more	3.17	150
4	2.86	114				Irish	3.07	59			
5	2.56	117				Other W. Eur.	2.66	116			
6	2.41	150				Ukrainian	2.56	97			
7	2.40	156				Other E. Eur.	2.54	55			
						Other	2.62	58			
Range	1.25			.50			.73			.69	

Education		N	Family Size of origin		N	Residence in youth		N	Nativity		N
0-8 years	3.08	76	1	1.78	13	Rural	2.67	293	Canadian-born	2.69	608
9-13 years (no post-secondary)	2.78	406	2	2.55	65	Town	2.73	186	Foreign-born	2.61	173
			3	2.73	97	City	2.63	291			
Post-secondary (no university)	2.53	200	4	2.74	95						
			5-7	2.79	184						
Some university	2.23	99	8-16	3.07	83						
Range	.85			1.29			.10			.08	

Table 4.21 Wanted completed fertility 1 by cohort and background variables each in turn. Unadjusted and adjusted deviations by cohort

Cohort	Deviations from grand mean (2.67)							
	Religion		Ethnicity		Religiosity		Education	
	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted
1	.25	.50	.22	.46	.25	.47	.25	.48
2	.97	1.97	.98	.99	.98	1.87	.97	1.86
3	.04	.10	.03	.09	.05	-.04	.04	.06
4	.19	.37	.13	.20	.17	.30	.19	.38
5	-.12	-.28	-.10	-.20	-.13	-.26	-.12	-.27
6	-.26	-.51	-.24	-.47	-.26	-.45	-.26	-.51
7	-.27	-.54	-.25	-.52	-.26	-.47	-.27	-.50
Range	1.24	2.51	1.23	1.51	1.24	2.34	1.24	2.37
Beta	Cohort	.214	Cohort	.208	Cohort	.181	Cohort	.194
	Religion	.159	Ethnicity	.156	Religiosity	.145	Education	.120

Cohort	Deviations from grand mean (2.67)					
	F.S. of origin		Residence in youth		Nativity	
	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted
1	.21	.44	.27	.54	.25	.51
2	.94	1.89	.95	1.89	.97	1.94
3	.04	.08	.03	.06	.04	.09
4	.14	.33	.19	.37	.19	.38
5	-.12	-.27	-.12	-.23	-.12	-.23
6	-.29	-.56	-.26	-.52	-.26	-.53
7	-.23	-.51	-.27	-.55	-.27	-.54
Range	1.23	2.45	1.22	2.44	1.24	2.48
Beta	Cohort	.205	Cohort	.208	Cohort	.212
	F.S. of origin	.144	Residence	.016	Nativity	.041

Table 4.22 Variation in wanted completed fertility 2 by cohort, religion, ethnicity, religiosity, education, family size of origin, residence in youth and nativity. (Grand mean = 2.78)

Cohort		N	Religion		N	Ethnicity		N	Religiosity		N
									(Religious attendance during past month)		
1	3.03	92	Non-Catholic	2.61	403	British	2.56	214	None	2.60	470
2	3.73	48	Catholic (and Orthodox)	3.11	269	German	2.77	94	1-3 times	2.87	158
3	2.82	105	Others	2.64	110	French	3.38	68	4 or more	3.25	150
4	2.91	114				Irish	3.27	59			
5	2.74	117				Other W. Eur.	2.73	116			
6	2.57	150				Ukrainian	2.71	97			
7	2.46	156				Other E. Eur.	2.69	55			
						Other	2.65	58			
Range	1.27			.50			.82			.65	

Education		N	Family Size of origin		N	Residence in youth		N	Nativity		N
0-8 years	3.36	76	1	2.00	13	Rural	2.85	293	Canadian-born	2.82	608
9-13 years (no post-secondary)	2.88	406	2	2.55	65	Town	2.80	186	Foreign-born	2.65	173
Post-secondary (no university)	2.64	200	3	2.93	97	City	2.70	291			
Some university	2.25	99	4	2.83	95						
			5-7	2.88	184						
			8-16	3.18	83						
Range	1.11			1.18			.15			.17	

Table 4.23 Wanted completed fertility 2 by cohort and background variables each in turn. Unadjusted and adjusted deviations by cohort

Cohort	Religion Unadjusted	Religion Adjusted	Ethnicity Unadjusted	Ethnicity Adjusted	Religiosity Unadjusted	Religiosity Adjusted	Education Unadjusted	Education Adjusted
	Deviations from grand mean (2.78)							
1	.25	.50	.22	.46	.25	.47	.25	.47
2	.95	1.92	.95	1.94	.95	1.82	.95	1.77
3	.05	.11	.03	.09	.05	-.05	.04	.06
4	.13	.26	.08	.09	.12	.21	.13	.26
5	-.04	-.13	-.01	-.03	-.05	-.11	-.04	-.11
6	-.21	-.41	-.20	-.37	-.21	-.35	-.21	-.40
7	-.33	-.65	-.32	-.64	-.33	-.60	-.33	-.59
Range	1.28	2.57	1.27	2.58	1.28	2.42	1.28	2.36
Beta	Cohort	.196	Cohort	.195	Cohort	.169	Cohort	.167
	Religion	.152	Ethnicity	.169	Religiosity	.126	Education	.141

Cohort	F.S. of origin Unadjusted	F.S. of origin Adjusted	Residence in youth Unadjusted	Residence in youth Adjusted	Nativity Unadjusted	Nativity Adjusted
	Deviations from grand mean (2.78)					
1	.25	.53	.27	.54	.25	.50
2	.92	1.85	.92	1.83	.94	1.90
3	.06	.12	.03	.07	.05	.11
4	.03	.12	.13	.26	.13	.27
5	.01	.01	-.04	-.08	-.04	-.08
6	-.25	-.48	-.21	-.41	-.21	-.44
7	-.30	-.66	-.33	-.66	-.33	-.66
Range	1.22	2.51	1.25	2.49	1.27	2.56
Beta	Cohort	.196	Cohort	.189	Cohort	.198
	Family size	.141	Residence	.017	Nativity	.064

2 ranging from 1.94 above the grand mean after adjusting for the effect of ethnicity to 1.82 above after adjusting for religiosity. Cohort 7 consistently has wanted completed fertility deviations far below the sample average, ranging from -.66 after adjusting for family size of origin, residence in youth and nativity (each in turn) to -.59 after adjusting for education. Beta weights indicate that cohort when considered with each background variable separately has greater influence on wanted completed fertility 2 than any other background variable.

The results of this preliminary analysis of the separate effects of background variables on the five measures of family size preference leads to the conclusion that there is considerable support for the hypothesis that there has been a downward revision of family size norms with cohort having an important influence on ideal, desired and expected family size and on wanted completed fertility. Although the relative importance of cohort varies by family size measure, it seems fairly clear that its relative influence is greater in explaining expected family size and wanted completed fertility than in explaining ideal or desired family size. The rank order of cohort moves from third for ideal to second for desired to first for expected family size. Some evidence is also provided by this analysis that ideal family size is less inconsistent across the important variables than is desired family size and that desired family size is less changeable than expected family size or wanted completed fertility.

The next step in this part of the analysis is to test for

interactions among predictor variables prior to further analysis of all variables acting together. As stated earlier, a precondition of Multiple Classification Analysis is non-interaction among predictor variables. This condition is necessary in view of the additivity assumption of MCA. Tests for interaction were made by means of standard analysis of variance under certain prespecified conditions. Only two-way interactions are tested, and only interactions where the F ratio is statistically significant at .10 or lower are taken as significant interactions. In testing for two-way interactions, all combinations of cohort, the central independent variable, with the background variables were tested for each of the five independent variables. Among background variables, tests for interaction were made only for those variables where interaction was suspected.

Appendix tables C. 1 to C. 90 show in summary the results of the analysis of variance for each of the five dependent variables. For ideal family size, the following interactions with accompanying levels of statistical significance for their F ratios were found (Tables C. 1 to C. 18):

Cohort-Family size of origin	.028
Cohort-Ethnicity	.003
Cohort-Residence in youty	.040
Cohort-Religiosity	.029
Cohort-Nativity	.048
Religion-Religiosity	.095
Family size of origin- Residence in youth	.001

For desired family size, a larger number of statistically significant interactions were found (Tables C. 19 to C. 36):

Cohort-Religion	.017
Cohort-Ethnicity	.109
Cohort-Religiosity	.042
Religion-Ethnicity	.003
Religion-Family size of origin	.014
Ethnicity-Religiosity	.089
Ethnicity-Family size of origin	.001
Education-Family size of origin	.030
Family size of origin-Reisdence in youth	.009
Nativity-Residence in youth	.002

For expected family size, Tables C. 37 to C. 54 reveal the following significant interactions:

Cohort-Religion	.076
Cohort-Religiosity	.001
Religion-Ethnicity	.091
Religion-Religiosity	.008
Education-Family size of origin	.011
Family size of origin-Residence in youth	.054
Residence in youth-Nativity	.093

Tests for wanted completed fertility 1 reveal the following interactions (Tables C. 55 to C. 72):

Cohort-Ethnicity	.069
Cohort-Religiosity	.100
Religion-Religiosity	.002
Education-Ethnicity	.045
Education-Family size of origin	.003
Family size of origin-Residence in youth	.042

Lastly, for wanted completed fertility 2, the following interactions were found to be significant (Tables C. 73 to C. 90):

Cohort-Religion	.084
Cohort-Religiosity	.058
Ethnicity-Religion	.091
Religion-Religiosity	.001
Education-Family size of origin	.007
Residence in youth-Nativity	.097

4.7 Background Variables Acting Together

This section intends to continue with the analysis by MCA, with all the background variables acting together and to present the results of the multiple regression analysis with all variables acting together within each cohort. The large number of variables which have been found to be interactive poses some problems in the analysis. Often in research problems similar to this one, interactions are ignored. The justification for this is simple: "The assumption that no interactions exist generally leads to an extremely efficient analysis procedure and a great reduction in the complexity of the computing problem" (Morgan and Sonquist, 1963:228). Although this argument is strong, it would seem that ignoring significant interactions firstly confounds the results produced by M.C.A. and secondly, prevents the analysis from closely approximating real effects.

In situations of interaction, several approaches are possible. One of the more common is analysis within subgroups. This solution, however, is most amenable to situations where almost all of the interactions involve the same dichotomy. The preliminary analysis described in the preceding section shows that this is clearly not the case here. A second approach is to eliminate one of the interacting variables, re-analyzing data with a limited number of variables. A third approach which seems to be gaining in popularity (see Segal, 1973; Williams et al., 1973), is to build combination predictors at the outset of analysis. This typically involves the development of combined predictors based on collapsed categories of individual predictors, allowing a range of the new predictor variable

which includes every possible combination of the original variables.

Both of these latter approaches have inherent limitations. The essential constraint in the first instance is exclusion of variables which may have explanatory power and a consequent reduction in the multiple R. In the case of combined variables, the basic limitation is that the explanatory power of any single variable can not be cited. If variables are in fact interactive then it is not justifiable to look toward the explanatory power of a single variable but rather the total effect of the interacting variables acting together. After careful consideration, it was decided to approach the problem of interactions in this chapter by each of these methods in turn.

Table 4.24 shows the unadjusted and adjusted deviations from the grand mean for ideal family size after elimination of those variables that interact with cohort: family size of origin, ethnicity, residence in youth, religiosity and nativity. The result is a limited MCA in which adjustments are made only for the effects of cohort, religion and education. The beta weights appearing at the bottom of the table are a measure of a variable's utility in explaining variance in ideal family size once all other variables in the model have been held constant. With three variables in the model, it is clear that cohort and education are the crucial variables in explaining variance in ideal family size. At this point the role of family size of origin, a variable found to be useful in explaining ideal family size in the earlier analyses, is not known. The general effect of adjustment on deviations from the grand mean for ideal

family size is a negligible change across cohort. The effect is most substantial for cohorts 6, 4 and 1 where the unadjusted deviations from the grand mean are largest.

From the beta weights appearing at the bottom of Table 4.25, it is apparent that in the MCA where adjustments are made for the effects of cohort, education, ethnicity and residence in youth on desired family size, cohort is the most important explanatory variable. Ethnicity is in second position with education and residence in youth considerably lower. The importance of family size of origin, a useful variable in the earlier separate analyses, once again, is not known. The appearance of ethnicity as a useful explanatory variable is somewhat puzzling since it did not emerge as significant in the separate analyses of desired family size. It may be recalled, however, that for desired family size, ethnicity interacts with both family size of origin and religiosity so it may be that the emergence of ethnicity here is the result of the influence of these two variables which were both found to be important in the separate analysis. The effect of adjustment is to increase the variability across cohort with the earliest and latest cohorts being most substantially affected. The pattern of deviations indicates a clear but somewhat inconsistent pattern for earlier cohorts to have substantially greater desired family size than later cohorts. The largest difference (of .84 children) is between cohorts 2 and 6.

Table 4.26 shows the results of the MCA for expected family size where adjustments have been made for cohort, education, ethnicity, residence in youth and nativity. The beta weights once again clearly

support the argument that cohort is a basic variable in explaining expected family size. It is followed in importance by ethnicity and education. Family size of origin, an important variable in the separate analyses of expected family size, is omitted from this analysis so no conclusions may be drawn about its relative explanatory power. Adjusting for the five background variables, as in one earlier table, tends to decrease the variability across cohorts. Cohort 2 with the largest unadjusted deviation from the grand mean is most affected, followed by cohort 7. The middle cohorts (3-5) are least affected by adjustment. The range of expected family size is 1.36 children, a substantially wider range than for desired (.84) or ideal (.44).

In Table 4.27, the results of an MCA for wanted completed fertility 1 with adjustments for cohort, family size of origin, religion, and nativity are presented. As was true for the other dependent variables, the beta weights at the bottom of the table clearly show that cohort is the most useful explanatory variable, followed by religion and family size of origin. Education, an important variable in explaining wanted completed fertility 1 in the separate analyses is omitted here so its relative weight cannot be ascertained. Adjustment for the four variables in this model reveals a pattern very similar to that obtained for expected family size with cohorts 2 and 7 being most affected and the middle cohorts least affected. The pattern of interaction for wanted completed fertility 1 is such that it is possible to do a re-analysis substituting religiosity for religion. The results of this MCA are presented in Table 4.28. Cohort remains the most useful variable followed by

Table 4.24 Ideal family size by cohort with religion and education acting together. Unadjusted and adjusted deviations. Beta weights for background variables and multiple R for all variables together

		Deviations from grand mean (2.67)	
Cohort	N	Unadjusted	Adjusted
1	88	.18	.15
2	50	.11	.02
3	100	.01	.02
4	115	.22	.20
5	123	-.06	-.08
6	161	-.25	-.24
7	157	.00	.05
Range		.43	.44
Beta			
Cohort	.167		
Religion	.100		
Education	.164		
Multiple R	.243		

Table 4.25 Desired family size by cohort with education, ethnicity, and residence in youth. Unadjusted and adjusted deviations. Beta weights for background variables and multiple R for all variables together

			Deviations from grand mean (2.93)	
Cohort	N		Unadjusted	Adjusted
1	86		.41	.42
2	44		.46	.49
3	101		.24	.26
4	103		.28	.22
5	119		-.07	-.08
6	140		-.36	-.35
7	145		-.35	-.32
Range			.77	.84
Beta				
Cohort		.231		
Education		.063		
Ethnicity		.138		
Residence in youth		.024		
Multiple R		.240		

Table 4.26 Expected family size by cohort with education, ethnicity, residence in youth and nativity. Unadjusted and adjusted deviations. Beta weights for background variables and multiple R for all variables together

		Deviations from grand mean (2.78)	
Cohort	N	Unadjusted	Adjusted
1	88	.27	.26
2	46	1.09	1.06
3	102	.12	.05
4	109	.12	.06
5	115	-.07	-.11
6	138	-.30	-.25
7	149	-.33	-.30
Range		1.42	1.36
Beta			
Cohort	.211		
Education	.110		
Ethnicity	.154		
Residence in youth	.014		
Nativity	.032		
Multiple R	.256		

Table 4.27 Wanted completed fertility 1 by cohort with family size of origin, religion, and nativity. Unadjusted and adjusted deviations. Beta weights for background variables and multiple R for all variables together

		Deviations from grand mean (2.76)	
Cohort	N	Unadjusted	Adjusted
1	61	.21	.25
2	37	.94	1.00
3	76	.04	.07
4	80	.14	.18
5	81	-.12	-.18
6	88	-.29	-.27
7	114	-.23	-.20
Range		1.23	1.27

Beta

Cohort	.214
Family size of origin	.129
Religion	.147
Nativity	.013

Multiple R	.235

Table 4.28 Wanted completed fertility 1 by cohort with family size of origin, religiosity, and nativity. Unadjusted and adjusted deviations. Beta weights for background variables and multiple R for all variables together

		Deviations from grand mean (2.75)	
Cohort	N	Unadjusted	Adjusted
1	61	.21	.24
2	37	.95	.88
3	76	.05	.09
4	78	.12	.13
5	80	-.13	-.20
6	88	-.29	-.19
7	114	-.23	-.20
Range		1.24	1.08
Beta			
Cohort		.183	
Family size of origin		.130	
Religiosity		.155	
Nativity		.012	
Multiple R		.236	

religiosity in this case.

The results of the MCA for wanted completed fertility 2 with adjustments made for cohort, family size of origin, residence in youth and nativity are presented in Table 4.29. Beta weights reveal that cohort, once more, is most useful followed by family size of origin. Adjusted deviations reveal a pattern similar to that observed for expected family size and wanted completed fertility 1. The magnitude of adjusted deviations obtained in this instance is at a level similar to those obtained in the two analyses of wanted completed fertility 1 but slightly lower than that obtained for expected family size.

It seems clear from these MCA's with omitted interactive variables that cohort is a critical variable in explaining the variance in all five measures of family size preferences. It also seems justified to conclude that these analyses lend support to the hypothesis that later cohorts have smaller family size preferences on all measures than earlier cohorts, although the trend pattern from earliest to latest cohort is not consistent.

The second part of the analysis of all variables acting together involves analysis with combined variables. In order to limit the number of categories for each combined variable, the background variables, with the exception of nativity which is already dichotomized, are collapsed into three categories each. After combining, no variable has greater than nine classifications in it. This is important because it limits the amount of core space required by the computer to do the MCA computations. Since it is no longer possible to observe unadjusted and adjusted deviations by cohort with

Table 4.29 Wanted completed fertility 2 by cohort with family size of origin, residence in youth and nativity. Unadjusted and adjusted deviations. Beta weights for background variables and multiple R for all variables together

		Deviations from grand mean (2.87)	
Cohort	N	Unadjusted	Adjusted
1	59	.29	.49
2	36	.88	.93
3	75	.04	.05
4	80	.03	.10
5	81	.01	.01
6	86	-.25	-.25
7	112	-.30	-.36
Range		1.18	1.29
Beta			
Cohort	.198		
Family size of origin	.140		
Residence in youth	.020		
Nativity	.037		
Multiple R	.167		

combined variables and meaningless to consider such deviations within combined variable categories, Tables 4.30 to 4.34 show only the eta and beta weights and total Multiple R's for the combined variables for each measure of family size preference.

It may be seen in Table 4.30 that cohort-family size of origin is by far the most important variable in explaining ideal family size. Cohort-ethnicity and religion-religiosity, although far below cohort-family size of origin, are virtually tied for second place. The least significant variables are family size of origin-resident in youth and education.

Table 4.31 shows that for desired family size cohort-religion is the variable explaining most, followed closely by cohort-religiosity. Cohort-ethnicity ranks third. The least important variables include family size of origin-residence in youth, ethnicity-family size of origin, and education-family size of origin. The multiple R's for desired family size, appearing at the bottom of Table 4.31 is considerably smaller than multiple R's for any other dependent variable.

For expected family size, it is somewhat surprising to note from Table 4.32 that religion-religiosity virtually ties with cohort-religiosity in explaining variance. These variables are closely followed by religion-ethnicity and cohort-religion. Least important are residence in youth-nativity and family size of origin-residence in youth.

For wanted completed fertility 1, Table 4.33 shows that religion-religiosity is the crucial variable, as it was for expected family size, followed by cohort-religiosity. Ethnicity-education

for this variable ranks third. Nativity and family size of origin-residence in youth explains least after adjusting for all other variables in the model. Table 4.34 reveals that for wanted completed fertility 2, religion-ethnicity takes priority closely followed by cohort-religiosity, religion-religiosity and cohort-religion. Least important in this instance is residence in youth-nativity.

It is difficult to draw extensive conclusions from this MCA with combined variables since it is not possible to assess the effect of background variables separately on each of the dependent variables. The emergence of the variable religion-religiosity as the important explanatory variable for expected family size and in wanted completed fertility 1 and as a basic explanatory variable for ideal family and wanted completed fertility 2 is striking. This finding seems consistent with the finding mentioned in Section 4.2 by Balakrishnan et al. (1975) in the Toronto study that, regardless of religion, regular church-goers have higher birth expectations. As was true for the Toronto study, this finding contrasts with earlier findings in the U.S. where religiosity only made a difference in explaining family size expectations of Catholics.

The salience of cohort-religion and cohort-religiosity as explanatory variables for desired and expected family size as well as for wanted completed fertility 2 (for wanted completed fertility 1, only cohort-religiosity is important) suggests that the separate effects of the three variables, cohort, religion and religiosity ought to be more closely examined. This is to be done by means of the subsequent multiple regression analysis. The findings that two combination variables which include cohort emerge as significant

Table 4.30 Eta and beta weights for ideal family size with combined variables. Multiple R for all variables

	Eta	Beta
Cohort - Family size of origin	.132	.462
Cohort - Ethnicity	.202	.199
Cohort - Residence in youth	.165	.152
Cohort - Religiosity	.204	.170
Cohort - Nativity	.147	.136
Religion - Religiosity	.189	.193
Family size of origin - Residence	.068	.076
Education	.164	.123
Multiple R	.118	

Table 4.31 Eta and beta weights for desired family size with combined variables. Multiple R for all variables

	Eta	Beta
Cohort - Religion	.222	.244
Cohort - Ethnicity	.196	.213
Cohort - Religiosity	.236	.231
Religion - Ethnicity	.190	.181
Religion - Family size of origin	.131	.131
Ethnicity - Religiosity	.167	.166
Ethnicity - Family size of origin	.052	.052
Education - Family size of origin	.129	.109
Family size of origin - Residence in youth	.011	.033
Residence in youth - Nativity	.057	.064
Multiple R	.018	

Table 4.32 Eta and beta weights for expected family size with combined variables. Multiple R for all variables

	Eta	Beta
Cohort - Religion	.271	.210
Cohort - Religiosity	.257	.225
Religion - Ethnicity	.199	.216
Religion - Religiosity	.224	.228
Education - Family size of origin	.129	.105
Family size of origin - Reisdence in youth	.023	.041
Residence in youth - Nativity	.045	.058
Multiple R	.232	

Table 4.33 Eta and beta weights for wanted completed fertility 1 with combined variables. Multiple R for all variables

	Eta	Beta
Cohort - Ethnicity	.210	.106
Cohort - Religiosity	.250	.211
Religion - Religiosity	.242	.265
Ethnicity - Education	.167	.136
Education - Family size of origin	.121	.121
Family size of origin - Residence in youth	.032	.068
Nativity	.001	.034
Multiple R	.244	

Table 4.34 Eta and beta weights for wanted completed fertility 2 with combined variables. Multiple R for all variables

	Eta	Beta
Cohort - Religion	.236	.190
Cohort - Religiosity	.230	.199
Religion - Ethnicity	.195	.206
Religion - Religiosity	.193	.196
Education - Family size of origin	.147	.122
Residence in youth - Nativity	.047	.067
Multiple R	.200	

explanatory variables for three of the five measures of family size preference may point toward the conclusion that cohort is a critical explanatory variable.

That cohort-family size of origin is found to be the major explanatory variable for ideal family size suggests that this dependent variable is sensitive to changes in fertility over time. It suggests that variation in ideal family size is accounted for by both cohort membership and size of family of origin. The separate effects analysis of Section 4.6 found a tendency for ideal family size to decrease with cohort and with size of family of origin. Although strictly the MCA cannot point toward direction of effects, this finding suggests that variation in ideal family size more than in the other dependent variables might be explained in terms of a decline over time.

The third approach to analysis of all background variables acting together is multiple regression analysis. This method does not differ substantially from multiple classification analysis but it does add the assumption of linearity. Regression must be confined to variables that are measured at least on ordinal scales unlike MCA which has the capacity to handle nominal variables. Here, hierarchical regression analysis is applied to each cohort separately within categories of religion for all five measures of family size preference. The order of variables to be added to the regression equation is determined by their respective eta values in the previously completed MCA. The advantage of the hierarchical regression method in this instance stems from its capacity to include indirect influences on the

dependent variable as well as the more easily obtainable direct influence. The resulting coefficients, however, are not equivalent to coefficients produced by the standard method. The objective here, as in any regression method, is to ascertain whether background variables have similar effects within each cohort. At the conclusion of this analysis, regressions are done for all ordinal background variables including cohort for each measure of family size preference within religion categories and for totals.

Religion and ethnicity are the two non-ordinal variables which are excluded from the analysis. Regressions for each cohort are done within religion categories. Ethnicity is omitted from the analysis completely because regressions based on categories of ethnicity alone or ethnicity with religion would substantially reduce the sample sizes within each cohort. The results of the analysis for ideal family size are shown in Tables 4.35 to 4.37, for desired family size in Tables 4.38 to 4.40, for expected family size in Tables 4.41 to 4.43, for wanted completed fertility 1 in Tables 4.44 to 4.46, and for wanted completed fertility in Tables 4.47 to 4.49. Each table presents standardized regression coefficients for each variable within cohort and for each religion category. As well, the square of the multiple correlation coefficient, indicating the proportion of variance explained by the regression equation, and the standard error of estimate, indicating prediction accuracy of the equation, are shown. Asterisks beside regression coefficients indicate that these coefficients reach statistical significance at .05 or

lower. The order of appearance of the variables in each table reflects the hierarchical order by which they entered the regression equation.

For all Protestants it is clear from Table 4.35 that education, family size of origin and nativity have a statistically significant effect on ideal family size. The latter two variables exert a positive influence while education has a negative influence. The pattern of influence of these variables across cohorts is not clear. For no single cohort does education reach statistical significance. In four cohorts, the influence of education on family size of origin is negative while in the remaining three (cohorts 1, 4 and 6), it is positive. Family size of origin reaches statistical significance only in cohorts 4 and 7 where it has a positive influence. Nativity is statistically significant only in cohort 7 where it exerts a positive effect on ideal family size. Overall, the coefficients for religiosity and residence do not reach the .05 level of significance. In cohort 5, however, the negative effect of residence in youth does reach statistical significance. Among Protestants, it is for cohort 2 that the most variance in ideal family size is explained by background variables. These variables are least successful in explaining variance in cohorts 3 and 6. Overall, they do not explain much.

A different picture emerges for Catholics, as shown in Table 4.36. Here, religiosity and residence in youth replace education and nativity as statistically significant along with family size of origin. Religiosity, not surprisingly, exerts a modest positive influence on ideal family size. Residence in youth has a negative

Table 4.35 Standardized regression coefficients by cohort using respondent's education, family size of origin, religiosity, residence in youth and nativity as independent variables and ideal family size as dependent variable

Protestants

Cohort	N	Coefficients					R^2	S.E.E.
		Education	F.S. of origin	Religiosity	Residence	Nativity		
1	55	.22	.19	-.12	-.15	.33	.20	.96
2	43	-.28	.07	.06	-.15	.28	.37	.80
3	70	-.05	-.21	.18	.07	-.09	.08	.71
4	60	.20	.49*	-.10	-.23	.15	.28	.80
5	52	-.19	.18	-.11	-.40*	-.13	.23	.78
6	82	.02	.14	.05	.24	-.06	.07	.76
7	63	-.22	.33*	.01	.07	.30*	.26	.88
Total	558	-.15*	.11*	.05	-.06	.14*	.08	.79

*Coefficient is statistically significant at .05 or higher

Table 4.36 Standardized regression coefficients by cohort using respondent's education, family size of origin, religiosity, residence in youth and nativity as independent variables and ideal family size as dependent variable

Catholics

Cohort	N	Coefficients					R^2	S.E.E.
		Education	F.S. of origin	Religiosity	Residence	Nativity		
1	38	.09	.18	.12	.13	-.14	.14	1.22
2	20	.09	.30	-.05	-.60	.08	.55	1.03
3	29	-.06	-.08	.24	-.22	.30	.22	.99
4	42	-.16	.11	-.26	.20	.03	.11	.87
5	49	-.29*	.22	.20	-.12	.15	.19	.97
6	61	-.11	-.12	.23	-.15	-.34*	.45	.64
7	47	.26	.07	-.25	.08	.31*	.19	.95
Total	349	-.04	.14*	.11*	-.13*	.02	.06	.93

effect. Although education overall does not reach the .05 level of statistical significance, it does in cohort 5 with a negative coefficient. Similarly, nativity reaches statistical significance in both cohorts 6 and 7 but the coefficient is negative for cohort 6 and positive for 7. Background variables overall are as unsuccessful in explaining variance in ideal family size for Catholics as they were for Protestants. Once again, these variables explain most in cohort 2, followed in the case of Catholics closely by cohort 7. A larger amount of variance is explained by background variables for Catholic cohorts 2, 3 and 6 than for comparable Protestant cohorts. For non-Catholic non-Protestants, Table 4.37 reveals that only religiosity and residence in youth reach statistical significance, both having a positive influence on ideal family size. Overall, background variables account for slightly more explained variance for other religions than for either Protestants or Catholics.

For desired family size for all Protestants, it may be seen from Table 4.38 that education and religiosity have statistically significant effects. The effect of education is negative with statistically significant coefficients appearing in cohorts 2 and 6 as well as overall. Religiosity reaches statistical significance only in cohort 7. Also statistically significant are the negative coefficients for family size of origin in cohort 3 and nativity in cohort 2 and a positive coefficient for residence in youth also in cohort 2. Overall, the amount of variance in desired family size for Protestants explained by background variables is small. The largest amount of variance is explained in cohort 2, once again.

Table 4.37 Standardized regression coefficients by cohort using respondent's education, family size of origin, religiosity, residence in youth and nativity as independent variables and ideal family size as dependent variable

Others

Cohort	N	Coefficients					R^2	S.E.E.
		Education	F.S. of origin	Religiosity	Residence	Nativity		
1	5	-	-	-	-	-	-	-
2	7	-	-	-	-	-	-	-
3	16	.53	-.20	.67*	.32	-.18	.59	.90
4	17	-2.25	-1.48	.04	.76	-.06	.92	.35
5	14	.27	-.31	.12	.43	.43	.55	1.17
6	13	.84	.07	-.15	-.22	-.03	.66	.47
7	38	.06	-.04	.10	.15	-.02	.03	.81
Total	139	-.11	-.02	.39*	.25*	.10	.19	.77

Table 4.38 Standardized regression coefficients by cohort using respondent's education, family size of origin, religiosity, residence in youth and nativity as independent variables and desired family size as dependent variable

Protestants

Cohort	N	Coefficients					R^2	S.E.E.
		Education	F.S. of origin	Residence	Religiosity	Nativity		
1	55	-.11	.03	.35	.48	-.01	.20	1.40
2	43	-.57*	.24	.74*	-.16	-.40*	.52	.66
3	70	.04	-.32*	.11	.22	-.14	.18	1.10
4	60	-.11	.05	-.30	-.08	-.02	.16	1.05
5	52	-.03	.07	.07	.23	.05	.05	1.55
6	82	-.34*	.14	-.04	.11	-.09	.15	.86
7	63	.12	.18	.11	.56*	.01	.29	.83
Total	558	-.10*	.02	.04	.20*	.01	.09	1.08

Even less of the variance in desired family size is explained by background variable for Catholics, as shown in Table 4.39. Here, education is replaced by nativity as statistically significant along with religiosity. Religiosity exerts a positive influence, as for Protestants and nativity a negative influence, contrasting sharply with the significant positive effect of nativity on ideal family size of Protestants. Also reaching statistical significance are negative coefficients for education in cohort 4 and residence in youth in cohort 7 and positive coefficients for family size of origin in cohorts 4 and 7. In four cohorts (3, 4, 5 and 7) a greater variance is explained for Catholics than for Protestants in desired family size by background variables. A total of four variables reach statistical significance for non-Catholic non-Protestants as shown in Table 4.40 including family size of origin, residence in youth, religiosity and nativity. All have a positive influence on desired family size. As was found for ideal family size, background variables account for a slightly larger part of the variance for non-Catholics non-Protestants than for Catholics or for Protestants.

The results of the regression analyses for expected family size for Protestants in Table 4.41 show that religiosity has a statistically positive influence and education a significant negative influence, exactly as was found for desired family size. Religiosity has the strongest effect in cohort 7 on expected family size. Education has its greatest impact in cohort 2 but also reaches statistical significance in cohorts 1 and 6. No other variable reaches statistical significance, even within cohorts. Although on the whole, background variables explain little of the variance in expected family size, a sizeable portion of

Table 4.39 Standardized regression coefficients by cohort using respondent's education, family size of origin, religiosity, residence in youth and nativity as independent variables and desired family size as dependent variable

Catholics

Cohort	N	Coefficients					R^2	S.E.E.
		Education	F.S. of origin	Residence	Religiosity	Nativity		
1	38	-.07	.31	-.02	-.13	.08	.09	1.91
2	20	-.18	-.06	.57	-.14	.23	.47	2.08
3	29	-.37	.17	-.07	-.08	-.55*	.32	1.41
4	42	-.38*	.37*	.23	.15	-.09	.34	1.64
5	49	.01	-.15	.22	.07	-.43*	.20	1.37
6	61	-.16	-.10	-.01	.04	-.28	.11	1.86
7	47	-.08	.38*	-.38*	-.16	.15	.35	.94
Total	349	-.03	.10	-.02	.11*	-.12*	.05	1.61

Table 4.40 Standardized regression coefficients by cohort using respondent's education, family size of origin, religiosity, residence in youth and nativity as independent variables and desired family size as dependent variable

Others

Cohort	N	Coefficients					R^2	S.E.E.
		Education	F.S. of origin	Residence	Religiosity	Nativity		
1	5	-	-	-	-	-	-	-
2	7	-	-	-	-	-	-	-
3	16	.63	.06	.46	.59	-.21	.58	2.10
4	17	.53	.84*	.21	.76*	.13	.96	.55
5	14	.89	.77	.70	.60	.90	.94	.44
6	13	.73	-.02	-.37	-.30	.01	.57	1.17
7	38	.18	-.01	.34	-.03	-.01	.13	.99
Total	139	.07	.23*	.22*	.28*	.17*	.16	1.53

Table 4.41 Standardized regression coefficients by cohort using respondent's education, family size of origin, religiosity, residence in youth and nativity as independent variables and expected family size as dependent variable

Protestants

Cohort	N	Coefficients					R^2	S.E.E.
		Religiosity	F.S. of origin	Education	Residence	Nativity		
1	55	.19	-.10	-.39*	.06	.09	.18	1.74
2	43	-.31	-.07	-.71*	.15	-.23	.25	1.42
3	70	.12	.22	-.12	.04	-.28	.20	1.26
4	60	-.07	.15	-.24	.01	.11	.09	1.47
5	52	.03	.19	-.00	-.19	.02	.08	1.13
6	82	.08	-.02	-.43*	-.07	-.06	.18	1.10
7	63	.73*	.16	.00	.13	-.15	.38	.78
Total	558	.10*	.09	-.21*	-.02	.00	.08	1.20

the variance in cohort 7 is explained by background variables. These variables are least important in explaining variance in cohorts 3 and 4 for Protestants.

Only religiosity reaches the .05 level of significance in explaining expected family size among Catholics, as shown in Table 4.42. It has an overall positive influence. This variable reaches statistical significance in cohorts 4 and 7 but the coefficient is positive only in cohort 4. Background variables having statistically significant negative effects on expected family size include education in cohort 4, residence in youth in cohort 7 and nativity in cohort 5. Residence in youth has a positive effect which is statistically significant in cohort 5. As was true for Protestants, background variables overall explain little of the variability in expected family size among Catholics. In cohort 2, however, a substantial portion of variance is explained by background variables. This occurs in an equation with a large standard error of estimate. As in previous analyses, a slightly greater part of the variance in expected family size is explained by background variables in the case of non-Catholics, non-Protestants than for either Catholics or Protestants. Overall, religiosity and nativity have statistically significant influences, both in a positive direction.

The pattern and direction of influence of background variables on wanted completed fertility 1 for Protestants, as shown in Table 4.44 is very similar to that for expected family size discussed above. A difference is that the greatest portion of the variance for this dependent variable is explained in cohorts 1 and 2 rather

Table 4.42 Standardized regression coefficients by cohort using respondent's education, family size of origin, religiosity, residence in youth and nativity as independent variables and expected family size as dependent variable

Catholics

Cohort	N	Coefficients					R^2	S.E.E.
		Religiosity	F.S. of origin	Education	Residence	Nativity		
1	38	.18	.26	.19	-.09	.20	.08	2.63
2	20	-.13	.77	.30	.41	-.07	.53	2.24
3	29	-.18	-.04	-.35	.18	-.47	.23	2.21
4	42	.32*	.12	-.36*	.05	-.12	.25	1.32
5	49	-.18	.00	.02	.45*	-.32*	.22	1.30
6	61	-.11	-.29	-.14	-.01	-.26	.13	1.84
7	47	-.26*	.09	-.09	-.34*	.24	.21	1.05
Total	349	.10*	.10	-.03	-.04	-.09	.04	1.79

Table 4.43 Standardized regression coefficients by cohort using respondent's education, family size of origin, religiosity, residence in youth and nativity as independent variables and expected family size as dependent variable

Others

Cohort	N	Coefficients					R^2	S.E.E.
		Religiosity	F.S. of origin	Education	Residence	Nativity		
1	5	-	-	-	-	-	-	-
2	7	-	-	-	-	-	-	-
3	16	.46	-.09	.18	-.10	.23	.46	2.19
4	17	.14	.81	.33	.17	.21	.55	1.79
5	14	.66	.59	.19	.93	.17	.88	1.67
6	13	-.46	-.01	.94	-.21	.01	.86	1.17
7	38	-.03	-.01	.18	.34	-.01	.13	.99
Total	139	.26*	.16	-.01	.17	.22*	.17	1.73

Table 4.44 Standardized regression coefficients by cohort using respondent's education, family size of origin, religiosity, residence in youth and nativity as independent variables and wanted completed fertility 1 as dependent variable

Protestants

Cohort	N	Coefficients					R^2	S E.E.
		F.S. of origin	Education	Religiosity	Residence	Nativity		
1	55	.17	-.40*	.46*	.31*	-.04	.30	1.57
2	43	-.00	-.48	-.49*	.02	.12	.33	1.47
3	70	.25	-.20	.09	.07	-.19	.20	1.26
4	60	.05	-.37	-.18	-.06	.10	.18	1.42
5	52	-.19	.06	.17	-.08	.10	.10	1.18
6	82	-.07	-.50*	.12	-.03	-.07	.22	1.11
7	63	.14	-.06	.61*	.11	-.18	.28	1.00
Total	558	.07	-.23*	.09*	.06	-.01	.07	1.26

than in cohort 7 as in the analysis of expected family size. For Catholics, however, as shown in Table 4.45, education reaches statistical significance with a negative effect on wanted completed fertility 1, unlike in expected family size. Religiosity has a positive effect. For no cohort does nativity reach statistical significance for Catholics' wanted completed fertility 1. Otherwise, patterns for Catholics for this dependent variable are basically similar to those for expected family size. For others, as is clear from Table 4.46, it is apparent that family size of origin, religiosity and residence in youth all have a statistically significant positive effect on wanted completed fertility 1. A greater portion of the variance for this religion category is explained by background variables than was true for the previous two categories of religion.

The regression analysis for wanted completed fertility 2 reveals that for all Protestants, only education has a statistically significant effect and that negative. This effect is most pronounced for cohorts 1 and 2. Residence in youth has a sizeable positive influence in cohort 7 and a less substantial influence in cohort 1. In cohort 2, residence exerts a statistically significant negative effect. Nativity has a negative impact on wanted completed fertility 2 of Protestants in cohort 7. Overall, variance explained in Protestants' wanted completed fertility 2 by background variables is small. The most variance is explained in cohorts 7 and 2.

For total Catholics, Table 4.48 shows that only education reaches statistical significance, with a negative effect. Residence

Table 4.45 Standardized regression coefficients by cohort using respondent's education, family size of origin, religiosity, residence in youth and nativity as independent variables and wanted completed fertility 1 as dependent variable

Catholics

Cohort	N	Coefficients					R^2	S.E.E.
		F.S. of origin	Education	Religiosity	Residence	Nativity		
1	38	.29	.10	.14	-.12	.16	.12	2.44
2	20	.30	-.30	.25	.48	-.14	.34	3.26
3	29	-.11	-.23	-.05	.06	-.36	.12	1.88
4	42	.04	-.47*	.34*	.17	-.09	.29	1.34
5	49	.00	.00	-.22	.52*	-.26	.26	1.21
6	61	-.27	-.05	-.10	.08	-.28	.10	1.80
7	47	.09	-.09	-.26	-.34*	.24	.21	1.05
Total	349	.07	-.13*	.12*	.03	-.05	.04	1.86

Table 4.46 Standardized regression coefficients by cohort using respondent's education, family size of origin, religiosity, residence in youth and nativity as independent variables and wanted completed fertility 1 as dependent variable

Others

Cohort	N	Coefficients					R^2	S.E.E.
		F.S. of origin	Education	Religiosity	Residence	Nativity		
1	5	-	-	-	-	-	-	-
2	7	-	-	-	-	-	-	-
3	16	-	-	-	-	-	-	-
4	17	.36	.04	.58	.43	.11	.71	1.51
5	14	.58	.29	.66	1.02*	.06	.92	1.11
6	13	-.12	.07	-.22	-.21	.58	.29	2.43
7	38	.12	.19	-.00	.42	-.20	.24	1.01
Total	139	.20*	-.00	.39*	.23*	.11	.22	1.74

Table 4.47 Standardized regression coefficients by cohort using respondent's education, family size of origin, religiosity, residence in youth and nativity as independent variables and wanted completed fertility 2 as dependent variable

Protestants

Cohort	N	Coefficients					R^2	S.E.E.
		Education	F.S. of origin	Religiosity	Residence	Nativity		
1	55	-.38*	.13	.39*	.27	-.02	.24	1.79
2	43	-.64*	-.04	-.41*	.09	-.20	.33	1.52
3	70	-.18	.15	.05	-.10	-.17	.18	1.30
4	60	-.21	.14	-.18	-.09	.08	.13	1.72
5	52	-.04	-.22	.05	-.02	.05	.05	1.62
6	82	-.57	-.06	.06	-.08	-.06	.30	1.18
7	63	-.12	.03	.76*	.06	-.34*	.43	.88
Total	558	-.24*	.04	.07	.03	-.03	.07	1.41

Table 4.48 Standardized regression coefficients by cohort using respondent's education, family size of origin, religiosity, residence in youth and nativity as independent variables and wanted completed fertility 2 as dependent variable

Catholics

Cohort	N	Coefficients					R^2	S.E.E.
		Education	F.S. of origin	Religiosity	Residence	Nativity		
1	38	.08	.27	.10	-.05	.12	.09	2.54
2	20	-.30	.29	.23	.42	-.09	.54	3.35
3	29	-.22	-.14	-.14	.21	-.45	.17	2.10
4	42	-.26	.01	.18	.07	-.16	.11	1.53
5	49	-.01	-.07	-.22	.48*	-.35*	.30	1.38
6	61	-.14	.29	-.13	.01	-.25	.12	1.83
7	47	-.09	.09	-.26	-.34*	.24	.21	1.05
Total	349	-.12*	.08	.06	.04	-.09	.04	1.97

in youth and nativity have statistically significant negative effects on the dependent variable; the former in cohort 7, the latter in cohort 5. Also in cohort 5, residence in youth exerts a positive influence which reaches statistical significance. The variance explained overall for Catholics is negligible but variance explained by background in cohort 2 is substantial. The variables of importance and the direction of influence in wanted completed fertility 2 for non-Catholics, non-Protestants are the same as those reported earlier for wanted completed fertility 1.

Although it is difficult to draw general conclusions on the basis of this regression analysis within cohorts, it would appear justified to conclude that the effects of the background variables across cohorts are not at all similar. Variables reaching significance in one cohort fail to do so in others or change direction of effect in another cohort. Overall for Protestants, education emerges as the important determinant of all five family size measures. Its influence in total is negative but this is not uniformly so across cohorts. For Catholics taken as a group, religiosity is the most frequently occurring background variable to consistently reach statistical significance. Religiosity emerges as important for four of the five family size measures, wanted completed fertility 2 being the exception. The effect of this variable across cohorts is not clear either.

Tables 4.50 to 4.53 present the results of a multiple regression analysis for the three religion categories and for the entire sample with cohort added to the model as in independent variable.

Table 4.49 Standardized regression coefficients by cohort using respondent's education, family size of origin, religiosity, residence in youth and nativity as independent variables and wanted completed fertility 2 as dependent variable

Others

Cohort	N	Coefficients					R^2	S.E.E.
		Education	F.S. of origin	Religiosity	Residence	Nativity		
1	5	-	-	-	-	-	-	-
2	7	-	-	-	-	-	-	-
3	16	-	-	-	-	-	-	-
4	17	.08	.51	.48	.31	-.02	.64	1.74
5	14	.14	.59	.67	.95*	.10	.88	1.43
6	13	.36	.55	.13	.34	-.09	.34	2.96
7	38	.19	.12	-.00	.42	-.20	.24	1.01
Total	139	-.04	.24*	.32*	.23*	.10	.20	1.77

Table 4.50 Standardized regression coefficients using respondent's cohort, family size of origin, education, residence in youth, religiosity and nativity as independent variables and ideal, desired, expected and wanted completed family size 1 and 2 and dependent variables

Total

	Coefficients						R^2	S.E.E.
F.S.	Cohort	F.S. of origin	Education	Residence	Religiosity	Nativity		
Ideal	-.04	.13*	-.11*	.12	-.06*	.08*	.07	.85
Desired	-.09*	.11*	-.04	.03	.17*	-.01	.06	1.37
Expected	-.12*	.14*	-.10*	-.01	.14*	.02	.08	1.52
Wanted Completed 1	-.08*	.12*	-.15*	.06*	.16*	.02	.08	1.59
Wanted Completed 2	-.10*	.12*	-.16*	.05*	.11*	-.01	.07	1.69

Table 4.51 Standardized regression coefficients using respondent's cohort, family size of origin, education, residence in youth, religiosity and nativity as independent variables and ideal, desired, expected and wanted completed family size 1 and 2 and dependent variables

Protestants

	Coefficients							
F.S.	Cohort	F.S. of origin	Education	Residence	Religiosity	Nativity	R^2	S.E.E.
Ideal	.06	.11*	-.14*	-.06	.05	.14*	.08	.79
Desired	-.03	.02	-.10*	.05	.20*	.01	.05	1.09
Expected	-.05	.09	-.21*	-.02	.10*	.00	.08	1.20
Wanted Completed 1	-.04	.07	-.23*	.07	.09*	-.01	.07	1.28
Wanted Completed 2	-.04	.04	-.24*	.04	.07	-.03	.07	1.41

Table 4.52 Standardized regression coefficients using respondent's cohort, family size of origin, education, residence in youth, religiosity and nativity as independent variables and ideal, desired, expected and wanted completed family size 1 and 2 and dependent variables

Catholics

	Coefficients						R^2	S.E.E.
F.S.	Cohort	F.S. of origin	Education	Residence	Religiosity	Nativity		
Ideal	-.13*	.15*	-.03	-.12*	.11*	.04	.08	.93
Desired	-.09	.10*	-.02	-.02	.11*	-.11*	.06	1.61
Expected	-.18*	.11*	-.01	-.03	.10*	-.07	.27	1.77
Wanted Completed 1	-.10*	.08	-.12*	.04	.11*	-.04	.05	1.86
Wanted Completed 2	-.14*	.09	-.11*	.05	.05	-.07	.06	1.95

Table 4.53 Standardized regression coefficients using respondent's cohort, family size of origin, education, residence in youth, religiosity and nativity as independent variables and ideal, desired, expected and wanted completed family size 1 and 2 and dependent variables

Others

F.S.	Coefficients						R^2	S.E.E.
	Cohort	F.S. of origin	Education	Residence	Religiosity	Nativity		
Ideal	-.11	-.01	-.10	-.25*	.38*	.10	.20	.77
Desired	-.25*	.25*	.07	.24*	.27*	.17*	.23	1.49
Expected	-.21*	.17*	-.01	.19*	.25*	.22	.21	1.70
Wanted Completed 1	-.15*	.20*	.00	.23*	.38*	.11	.24	1.73
Wanted Completed 2	-.20*	.25*	-.04	.23*	.31*	.10	.24	1.74

From Table 4.50, it is apparent that for the entire sample for all dependent variables but ideal family size, cohort has a statistically significant negative effect on the family size measure. The relative effect of cohort varies from measure to measure, however. It ranks highest for expected family size but even then, its effect is superceded by the equivalent positive influences of family size of origin and religiosity. For desired family size, cohort ranks third in importance after the positive influences of religiosity and family size of origin. For both wanted completed fertility 1 and 2, cohort ranks only fourth following, in varying order, the effects of education, religiosity and family size of origin. For ideal family size, in which cohort does not reach statistical significance family size of origin ranks first, followed by education, nativity, and religiosity. In no instance do the background variables explain much of the variance in the family size preference measures.

Table 4.51 reveals that for Protestants alone cohort is not a crucial determining variable of family size. The variable which emerges as most important in this analysis is education, with its consistently negative effect across all measures. Only in the case of desired family size is the primacy of education usurped by religiosity which exerts a positive influence. Unlike in the total sample analysis, family size of origin for Protestants alone reaches statistical significance only for ideal family size, where the influence of education and nativity assume greater proportions. Here, as for the entire sample, very little variance in any of the five family size measures is explained by the background variables.

For Catholics only, as shown in Table 4.52, cohort is a much more serious determinant of family size preference than it is among Protestants only. For all but desired family size, cohort emerges as having a statistically significant negative effect on family size. In the case of expected family size and wanted completed fertility 2, the influence of cohort is primary. For ideal family size, cohort is superceded by the positive influence of ideal family size. Cohort follows both education and religiosity in influencing wanted completed fertility 1. The relative amount of variance explained by background variables for Catholics is small in general. For expected family size, in which cohort is the most influential variable, a greater proportion of variance is explained by background variables for Catholics than for Protestants.

Table 4.53 reveals that for non-Catholic non-Protestants, as for the entire sample, in four out of five family size measures cohort has a statistically significant negative effect on family size. In the case of ideal family size, cohort does not reach statistical significance. Religiosity is of primary importance with a positive effect, a position which this variable retains for all five family size preference measures. For ideal family size and wanted completed fertility 1, religiosity is followed by residence in youth in importance. Family size of origin ties with cohort in second place for desired family size. For wanted completed fertility 2, family size of origin follows religiosity in importance. A considerably higher proportion of variance in all five measures is explained by background variables for non-Catholics non-Protestants.

The results of the multiple regressions with background variables and cohort add some new dimensions to the earlier reported MCA findings. For ideal family size, the multiple regression analysis leads to the conclusion that education is a critically important explanatory variable for Protestants but its importance diminishes for Catholics. Education did not emerge as significant in the MCA with combined variables but it was second in importance after cohort in the MCA with omitted variables. The regression analysis finds that for Catholics family size of origin, followed by cohort is the most important determinant of ideal family size while for Protestants these variables are of far less importance. This finding, in conjunction with the MCA combined variables analysis finding that cohort-family size of origin is the most important background variable explaining ideal family size seems to suggest that it is Catholics who have experienced the most substantial downward revision in family size ideals and are most susceptible to early socializing influences on family size. The first part of this conclusion appears consistent with Blake's (1966) U.S. finding that ideal family size of Protestants and Catholics are converging due largely to a reduction in Catholics' family size ideals.

For desired family size, the regression findings are also suggestive when considered together with earlier MCA findings. For Protestants, the regression analysis underlines the importance of religiosity and education in determining family size desires. For Catholics, religiosity, nativity and family size of origin emerge

as important variables. The regression pattern for the total sample suggests that religiosity, family size of origin and cohort exert influence on family size desires. The results of the MCA with combined variables lend some support to the regression findings for the total sample in that the variable cohort-religiosity was found important. It is less clear for desired family size than it was for ideal family size that one religion group dominates, although the emergence of family size of origin in the total sample, while not for Protestants, might point to Catholic-determined family size desires. It is interesting to note that for both Protestants and Catholics that religiosity is a primary determinant of desired family size. Catholic family size desires are determined more by ascribed characteristics, if religiosity and family size of origin may be termed ascribed, while Protestants' desires are affected by the achieved characteristic, education, to a greater extent.

The regression finding that religiosity and family size of origin are the background variables of most importance in influencing expected family size is not inconsistent with the MCA combined variable finding that religion-religiosity is a basic explanatory variable. Although religiosity is important in influencing expected family size of both Protestants and Catholics, it is not of first rank for either. Instead, education emerges as primary in the case of Protestants and cohort followed by family size of origin for Catholics. Education did not appear as a useful explanatory variable in either of the MCA analyses with all variables acting together. Cohort, however does emerge in both the MCA omitted variable and

combined variable analyses. This might indicate that the effect of cohort on family size expectations is most apparent among Catholics but the effect is sufficiently strong to be reflected in overall fertility expectations.

For wanted completed fertility 1, education is of primary importance for both Protestants and Catholics with religiosity in second place. Surprisingly, this variable did not emerge from the MCA reported earlier. Findings from the various approaches to analysis of all background variables acting together are somewhat at variance with each other for wanted completed fertility 2 as well. From the regression analysis, education is found to be the primary explanatory variable for the whole sample and the only variable to reach significance for Protestants. For Catholics, the regression shows that cohort is first in importance followed by family size of origin. The MCA with omitted variables revealed that cohort and family size of origin are important. This is partly consistent with the regression findings for the total sample and partly with the findings for Catholics. Results of the MCA with combined variables, however, indicate that religiosity-ethnicity, cohort-religiosity, religion-religiosity and cohort-religion are the central explanatory variables.

It is difficult to draw extensive conclusions on the basis of these analyses as to the role of cohort membership on the five measures of family size preference. It does seem justified to conclude on the basis of the regression analyses that cohort is a particularly useful variable in explaining all five family size

preference measures for Catholics but particularly expected family size and wanted completed fertility 1. Although the results of regression analyses suggest that cohort is a far less important explanatory variable for Protestants, the MCA analyses with combined and omitted variables underline its overall explanatory power. Similarly, education emerges from the regression analysis as the essential determinant of family size preference among Protestants. Somewhat less support is found for this as a result of the MCA's, however.

It would have been possible to examine indirect effects of background variables more closely by means of more complex models. Given that the basic concern in this chapter is inter-cohort differentials in the five measures of family size preference, the essential interest lies in ascertaining the degree to which background variables can be said to account for observed cohort differentials. It was, therefore, decided that addition of greater complexity in the models would not have added much. As well, of course, increased complexity of models would have been circumscribed by the sample sizes of the cohorts.

In general, it may be concluded that although the evidence is not completely consistent, there seems to be support for the hypothesis that there has been a downward revision in family size norms. This revision is evidenced for all five measures of family size preference, although not consistently. Once background variables are controlled, the evidence points to the conclusion that cohort remains a basic explanatory variable in family size preference, but

particularly among Catholics. In contrast, family size preferences of Protestants are less determined by cohort membership and more by educational attainment. These analyses also lend some support to the notion, mentioned in Chapter 2, that, to a large extent, family size preferences are framed for Catholics especially in terms of family size of origin. This suggests some support for the Westoff-Potvin (1967) idea that fertility aspirations are, to some degree, a function of socialization, but limits the conclusion to Catholics only.

The findings of this chapter generally lead to the conclusion that, although a structural analysis of fertility differentials is useful in discerning something of the intercohort variation in family size preferences, it is not successful in explaining much variation, even though the variation in some measures of family size preferences across cohorts can be sizeable. This appears to support the contention that attempts at explaining fertility differentials solely in terms of background variables are not completely adequate.

CHAPTER 5

THE ECONOMIC UTILITIES MODEL AND INTERCOHORT DIFFERENTIALS IN EXPECTED FAMILY SIZE AND WANTED FERTILITY

5.1 The Economic Utilities Model Of Fertility

It has long been recognized in demography that economic factors play a vital role in fertility behaviour. Lorimer, in his classic study of social and economic variables affecting fertility suggests that "social and cultural adjustments to actual conditions of living tend to induce widespread restriction of fertility when such restriction is recognized, or assumed, to be favourable to the achievement of accepted goals" (Lorimer, 1954: 248-249). Similarly, in the classic study of the trend toward small families among the growing middle class in England during the late nineteenth century, Banks (1954) found that fertility tends to be restricted when preference for maintaining a desired level of living is high and when present income is low relative to the desired level of income. Ryder, fairly early in his career, suggested that "to judge from the reports of informants, emphasis of analysts and everyday conversation, economy is the paramount determinant of fertility decisions" (Ryder, 1959:426).

Quite recently these early concerns with economic factors have crystallized in the development of an economic model of fertility behaviour. Simply, this model, sometimes variously called a utilities

model or the new home economics, posits that fertility decisions are made on the basis of utility maximization, relative preference for children being based on considerations of marginal utilities and marginal costs. The objective in this chapter is to examine the degree to which the economic model can explain intercohort differentials in expected family size and wanted fertility.

Although recognition of the relation of economic factors to fertility has had a fairly long history in demography, the literature is replete with contradictory findings on the nature of the relationship. These contradictions are both empirical and theoretical. In the theoretical realm, the contradictions run deep into the theoretical foundations of demography. Malthus argued that social benefits to the poor would result in early marriage and high fertility, thereby positing a direct relationship between socio-economic levels and fertility. The demographic transition theory or model, on the other hand, suggests a different relationship. This model holds that with socio-economic development, societies experience first a decline in mortality and ultimately a fertility decline. It could be concluded that the transition model supports the view that fertility declines as standards of living rise.

The transition model provides the basis for the assertion that an inverse relationship exists between socio-economic conditions and fertility from another point of view as well. It is presumed that modernization, including dissemination of contraceptive knowledge, proceeds at a more rapid rate among the upper classes than among the lower classes. This notion is behind the suggestion that the relation

of economic factors to fertility will differ according to the stage of progression through the demographic transition (Cho _et al_., 1973). A traditional population would exhibit a direct relationship between fertility and socio-economic status. As the transition proceeds, the relationship would become inverse and possibly U-shaped. At the end of the transition, the relationship would again become positive.

More recently, concern with the relation of economic factors to fertility has led demographers and economists in the direction of developing an economic model of fertility. In part, this development has signalled an attempt to integrate existing findings on fertility differentials based on the structural approach. Hawthorn (1970) and Cho (1970) have based explanations of fertility differentials on the economic model. Hawthorn concludes his analysis in saying that social and economic factors affect fertility intentions "by altering the balance of resources, costs and tastes available to and perceived by the couple" (Hawthorn, 1970:110). Devotion of thought and energy to the economic aspects of fertility has led some researchers to apply micro-economic theory to fertility decisions and behaviour. It is this particular development which has been hailed as having enormous potential in explanation of fertility differentials and, according to some (Easterlin, 1969; Turchi, 1975:2) represents a solid step toward the development of an integrated social and economic theory of fertility.

The origins of the new home economics, as mentioned in Chapter 1, are usually attributed to Becker (1960) where the rudiments of an economic interpretation of fertility behaviour resting on the demand

theory of consumer goods are elaborated. In fact, the basics of the model can be traced to Leibenstein (1957) and Banks (1954), and even possibly to Gossen and Brentano writing in the nineteenth and early twentieth centuries (Thomlinson, 1976:229-230).[1] Becker argues that children are basically analogous to consumer durables and that, all else being equal (i.e. tastes for children), positive income leads to an increase in both quality and quantity of children with the difference between quality and quantity equal to nothing more than a difference in expenditure per child. A distinction is made by Becker between cost of children and quality expenditure. Cost refers to the price of goods and services consumed by the child whereas quality includes the kinds and amounts of goods and services consumed. Costs of children are dependent on prices as well as supply and demand considerations. Quality expenditures on children, on the other hand, are the result of family decisions and relate directly to income. Becker concludes in accordance with this model that family size preferences, like preferences for other consumer durables, will rise with income. To explain the often observed negative relationship of income to fertility, Becker relies on knowledge of contraception varying directly with income. Once this differential in contraceptive knowledge is eliminated, Becker speculates, a positive relationship would emerge between fertility and income.

The empirical evidence with respect to Becker's model is contradictory. Support is found by the Indianopolis study in which the relationship between income and completed family size is found to be positive among couples who had the number of children they wanted and

at the times they wanted them (Kiser and Whelpton, 1953). Goldberg's study of two generation urbanites who use contraception also reports a positive relationship of income and completed family size (Goldberg, 1960). Other evidence, however, suggests an inverse relationship between annual income of husband and fertility among couples who are effective contraceptors. Chaudhury (1972) found this to be true in a study of women in metropolitan Toronto. Bernhardt (1972) also found an inverse relationship between family income and fertility in a Swedish sample where the vast majority practised contraception. In the U.S., Freedman and Coombs (1966), however, found no consistent relationship between income and expected family size even when controlling for the effects of differential contraception.

These contradictory empirical findings suggest the need for a closer critical examination of Becker's model as much of the work since his pioneering efforts has been directed toward refinement of the variables contained in his original model. Becker's basic analogy of children to consumer durables has been subjected to considerable discussion and criticism, the results of which have been a more clearly specified definition of the costs of children. Becker simply assumes that a couple is free to choose any combination of numbers of children and expenditure per child. It is suggested in a critique of Becker, appearing in the same volume as Becker's original paper, that expenditure per child, rather than being a decision variable, depends on one's social class (Duesenbury, 1960). The assumption that expenditures per child are not decision variables but determined by the parents' standard of living calls into question the

appropriateness of the direct analogy between consumer durables and children.

It has further been pointed out that Becker's model does not consider the multiple aspects of costs of children. In particular, Becker has been criticized for ignoring the indirect or "opportunity costs" of childbearing (Blake, 1968; Namboodiri, 1970). The concept of opportunity costs entails the idea that children require time and care by parents as well as direct expenditures. Blake (1968) notes that inclusion of indirect costs requires modification of Becker's proposed association between income and fertility since opportunity costs differentially affect persons in higher classes. Specifically, Blake (1968:20) suggests that "upper income persons have more attractive and diversified consumption opportunities than those of lesser income" and an "upper income person is normally under some social pressure to take advantage of these opportunities." It is thus supposed that the marginal costs of an additional child would be greater for an upper income family than a lower income family in terms of alternatives foregone. Economists, in recognition of this problem, have suggested that opportunity costs to parents, in particular wife's foregone labour market earnings, be incorporated into child costs in the attempt to explain fertility differentials among socio-economic classes (Mincer, 1963).

Empirical efforts directed toward testing indirect costs lend general support to the idea that increases in the cost of a wife's time tends to be negatively related to fertility (Mincer, 1963). In later work, Easterlin (1969) suggests that a wife's potential earning power influences fertility in two different ways. It adds to the

income effect on fertility. It also has a negative "substitution effect" as a result of increased opportunity costs measured by the wife's foregone earnings. It is because of this substitution effect that the effect of family income on fertility becomes problematic according to Easterlin (1969). Becker (1965) himself acknowledges the criticisms of his earlier work by incorporation of the concept of opportunity costs in his subsequent model of time allocation.

Easterlin (1968, 1969) provides further elaboration of the Becker model by introducing the notion of "taste". Addition of this concept to some extent meets the criticism levelled at Becker's model, primarily by Blake (1968), that literal application of the economic assumption of freedom to change items consumed is not appropriate in the case of children. Tastes, as pointed out by Easterlin (1972), are determined by a multiplicity of factors including income. A variation on this idea is that costs of children, being less well known and understood than costs of other consumer durables, brings into question Becker's strict analogy and elevates the importance of taste factors.

Central to the criticism launched against Becker's model and a basic consideration in much subsequent work is Becker's emphasis on the use of present income as a measure of economic position. There is considerable accord on the inappropriateness of using present income as the economic measure particularly within a decision framework of anticipated completed fertility (Easterlin, 1969; Freedman, 1963; Namboodiri, 1970; Simons, 1969; Willis, 1973). Resolution of this problem, however, has taken at least two tacks. The first, espoused largely by Easterlin (1969) and Willis (1973), asserts that parents, in making decisions about completed family size are more mindful of

their projected anticipated income than their present income. According to Easterlin (1969), observed present income actually may be an unreliable index of potential income because it inadequately reflects both prospective earnings over time and foregone earnings at present. Similarly, Willis (1973) suggests that husband's current income may represent a distorted measure of expectation of lifetime income upon which long-range fertility decisions ultimately rest. Willis also supports lifetime expected income as the most relevant variable for economic analysis of fertility expectations.

In essence, the potential income hypothesis asserts that completed family size depends on anticipated changes in income over time, changes of a substantial enough nature to influence the family's standard of living. A difficulty, of course, in application of this measure arises from couples' differential capacities to anticipate long-term income prospects. Planning capability differentials by socio-economic status can easily confound results of analysis of the economic factor on fertility expectations.

In spite of this problem, empirical results suggest some support for the potential income hypothesis. Freedman and Coombs (1966) asked a sample of U.S. respondents how much change they expected in their income over the next ten years and how much difference this change would make in their present standard of living. Their analysis concludes that, when measured in this way, potential income has a positive relation to birth expectations. Willis (1973) finds that husband's present income explained less of the variance in fertility expectations in a sample of U.S. white urban, once married women living with their husbands than potential income, measured by husband's

anticipated income at age 40. Mincer (1963) also finds a positive relationship of potential income with fertility when the measure of potential income is taken to be the combination of husband's and wife's current earnings. Bernhardt (1972), in a Swedish study, finds the relationship between potential income, measured by the husband's earnings 10-12 years following marriage, and fertility expectations to be differentially associated in various birth orders. For the first two birth orders, potential income is found to be positively related to fertility. For third order births, the relationship is U-shaped. For births higher than the third order, the relationship is inverse.

The second approach to modifying Becker's reliance on current income is the relative income hypothesis. Essentially this approach suggests that income per se is not important in expected fertility but rather income relative to others in one's socio-economic or age group. In effect, the relative income approach suggested by Freedman (1963) incorporates the earlier mentioned notions of taste or preference factors. Easterlin (1969:147) notes that "the relative income hypothesis provides a crude embodiment of the view that fertility behaviour reflects a balancing of preferences against certain resource constraints." Relative income, then, serves as a proxy for desired standards of living in a way similar to the relative deprivation concept used in poverty research. The relative income hypothesis basically assumes that in situations where present income is high relative to maintenance of the desired standard of living of the couples' group, couples will expect more children than will those whose present income is low relative to the group. In some ways the relative income hypothesis modifies the potential income hypothesis by suggesting that a mere

change in anticipated income over time will only have an effect on fertility behaviour and expectations if there is a corresponding change in the relative income.

The relative income hypothesis has received considerable empirical attention, making use of both cross-sectional and time series data. Freedman (1963) studied a U.S. sample of non-farm contracepting couples with no fecundity impairments and no unplanned pregnancies. Her findings were that income of husband relative to others in his occupational, educational and age groups makes a difference in actual fertility. Chaudhury (1972) finds support for Freedman's results in a study of once-married women in metropolitan Toronto, adding that relative income related positively to desired number of children as well as actual but only for couples who had been married for 10 years or more. Bernhardt (1972), using a measure of relative income based on a comparison of husband's present income with the "quintile" income distribution for his occupational group, finds that among non-farm couples married at least 10-14 years, those with average income have the lowest mean parity while families with low and high relative income have larger than average families. Her sample is not restricted to fecund planners, a factor which she suggests may account for her findings failing to follow the expected pattern.

Kunz (1965), in a rather unusual research design, has examined the relationship of relative income and fertility using 1960 U.S. Census data. His sample is restricted to once-married white women aged 35-44 years with husband present. Restricting the analysis further to couples in which the husband was not engaged in any farm-

related occupation, Kunz analyses the relationship of husband's present income and the number of children ever born in 38 different groups based on combinations of husband's occupation, husband's education and wife's age at marriage. Out of 38 possible groups, the relationship of income to fertility is found to be positive in 28 groups. The exceptions to the positive relationship occur in those groups where husbands are in low status occupations with low education and wives who married young.

One of the earliest efforts directed toward testing the relative income hypothesis by time-series data is the classic study by Banks (1954). As mentioned earlier in this chapter, Banks attempts to explain the increasing preference of middle class families in nineteenth century England for small families. He suggests that declining fertility of middle-class British couples might be attributable to differentially rising standards of consumption relative to income in the middle class. After accounting for average middle class expenditures on basic requirements of living, Banks finds that accepted levels of consumption were expanding at a more rapid rate than average income. Banks interprets this as an indication that when preference for maintaining a desired level of living is high and present income is low relative to that desired level of living, fertility will be restricted.

Easterlin (1972 and 1973), in much more recent work, has developed the hypothesis that fertility trends in the U.S. since 1930 may be explained in terms of fertility resulting from a balance between income-earning potential and desired level of living. Fertility, Easterlin argues, will be restricted if income potential of

a couple falls short of desired living standard. Alternatively, when prospective earnings are favourable relative to desired level of living, fertility will be increased. Specifically, Easterlin examines the fertility behaviour since 1930 of couples in which the wife was young, 15-19 years and 20-24 years. Easterlin's measure of relative income is based on a comparison of the current incomes of the young couples and the incomes of their parents when the young couples were teenagers, based on a standard dollar. According to Easterlin, this index of relative income is an excellent one since consumption standards of young couples are largely determined by their experiences in the parental home. Calculating this index for 1930 through 1970 and comparing it with fertility trends, Easterlin finds a good fit between fluctuating relative income status and fertility changes.

Much of the criticism of the economic utilities model of fertility behaviour rests on the observation that findings do not fully support the model. The essential criticisms along these lines have been described above. It might be justifiably concluded that although the evidence is less than perfectly consistent, there is substantial empirical support for the model as a means of accounting for differential fertility in cross-sectional data and fluctuations in time-series data. This is particularly true when the economic measure employed is potential or relative income rather than current income.

A second avenue of criticism of the model argues that economic rationalistic thinking may be inappropriate in the context of childbearing. Espoused essentially by Blake (1968), this view holds

that the existence of strong social institutional pressures to have children works against equating children with other utilities. She continues by suggesting that, in fact, social institutions are mediating in the effect of economic factors on reproduction decisions. Additionally, Blake argues that no clear-cut market controls exist in the acquisition of children and no substitution of other utilities in favour of or against children is permitted. In line with the earlier mentioned position of Duesenberry (1960), Blake reaffirms the importance of normative constraints and social reference groups on fertility expectations and behaviour.

While the validity of these arguments is recognized, it would seem that the explanatory potential of the economic utilities model, particularly when employed with relative income as the central economic variable, remains substantial. That economic rationality may not be uniformly distributed in the population seems undeniable but the process of exploring the degree to which economic considerations impinge on fertility decisions could lend clarity to the nature of this distribution. Thus, it seems that the idea of couples maximizing economic utilities remains a reasonable explanatory model worthy of empirical examination even if it is not a completely adequate theoretical conceptualization.

This chapter intends to test the capacity of a specified version of the economic utilities model to account for intercohort differentials in expected family size and wanted completed fertility. The operationalization of the variables in the model is the subject of the next section. The specific hypothesis under consideration here

is the following: Younger cohorts indicate preferences for consumer goods and economic rewards which are competitive with childbearing to a greater degree than older cohorts. In Chapter 6, the economic utilities model is adapted to sociological considerations, in an attempt to meet many of the criticisms made against the economic model for exclusion of social pressures and choices. At the conclusion of Chapter 6, a comparison is attempted between the explanatory potential of the economic utilities model and that of the derived sociological utilities model with respect to intercohort differentials in expected and wanted completed fertility.

5.2 Operationalization And Adaptation Of The Economic Model

In operationalizing the economic model for the purpose of analyzing intercohort differentials in expected and wanted fertility, several economic variables are used to measure relative economic position. The central measure of relative income is husband's income in 1973 divided by mean husband's income for the entire cohort of which his wife/partner is a member. This measure provides a level of income for husband relative to others in "his" cohort. It has the additional advantage of, in effect, standardizing for income changes over time. Details of the computation of this index appear in Appendix B. Use of husband's income, rather than family income, seems preferable in spite of consequent slight reductions in sample size because it keeps the "income effect" separate from the "substitution effect". Of course, a problem inherent in this is that the wife is the source of information on husband's income.

A preferable measure which might more accurately reflect individuals' evaluations of their economic wellbeing relative to others, would be income relative to those in similar occupations or in similar neighbourhoods. Use of this measure, however, in the present study is problematic because the questionnaire asked only limited questions on husband's occupation and very little on type of neighbourhood. Those questions that were asked were directed toward the wife/partner thereby increasing the difficulty in discerning the husband's appropriate reference group. Employment of the more specific measure of relative income raises the additional problem of conversion of all income data to a standard dollar, no small challenge in times of rapid monetary fluctuations and shifts in buying power.

Given that the interest in the present analysis is ascertaining the degree to which economic factors explain intercohort differentials in expected and wanted completed fertility, there is some need for determination of "substitution effects" as well as "income effects". For this reason, it was decided to include at least at the outset a measure of relative family income in the analysis as well. This measure, computed in a way similar to relative income of husband, involves calculating mean current family income for each synthetic cohort. Relative family income for each family then becomes current family income divided by mean family income for the cohort.

An additional "proxy" measure of relative income is subjective feelings the respondent has about her family's current financial state. Inclusion of this variable is designed to partly alleviate the problems associated with the above two measures of relative income.

Indeed, it could be argued that relative income position must be a subjective state. Even if husband's or family income is low, in terms of other members of the cohort, the fact that the respondent feels they are doing well may affect desired consumption patterns including desire for children. The reverse, of course, may also be operative.

Empirical measurement of utilities of children is inherently problematic. In the basic economic model, utilities are essentially conceptual variables for which it is very difficult to find equivalent empirical variables. This problem is at the heart of many criticisms of the economic utilities model: How can the model be considered in reality when empirical operationalization of its essential conceptual framework is so difficult? The interest here is in measuring, even if this must be done inadequately, preferences for consumer durables and/or tastes in terms of level of living. Two measures are employed: (1) ownership of high status items and (2) proportion of years worked by the respondent since age 16.

Ownership of high status items (large house, colour TV, dishwasher or two or more cars) may be seen as an indicator of preferences for consumer durables. Given that ownership of these durables may be a function of income, the developed index controls for income in employing this variable as an empirical proxy for utilities. Another problem inherent in the use of the high status items variable is that ownership of some of these items (maybe even all of them) may be a function of family size. Prior to developing the index, a test is made of the association of actual family size with ownership of high status items. From Table 5.1, it is apparent that this concern

Table 5.1 Actual family size by ownership of high status items*

Actual Family Size	Ownership of High Status Items				
	Low	Low Medium	High Medium	High	
0	44.2% (160)	27.9% (101)	13.8% (50)	14.1% (51)	100.0% (363)
1	34.3% (51)	33.6% (50)	20.1% (30)	12.0% (18)	100.0% (148)
2	21.9% (45)	24.5% (50)	26.8% (55)	26.8% (55)	100.0% (206)
3	12.7% (19)	18.8% (28)	23.6% (36)	44.9% (68)	100.0% (151)
4	8.3% (7)	25.7% (21)	28.5% (23)	37.5% (30)	100.0% (81)
5 or 6	15.8% (9)	26.3% (15)	36.8% (21)	22.8% (13)	100.0% (57)
7 +	7.1% (1)	42.9% (6)	35.7% (5)	7.1% (1)	100.0% (14)
Total	28.7% (292)	26.6% (271)	21.5% (220)	23.2% (237)	100.0% (1020)

* High status items include: colour TV, two or more cars, dishwasher, house with six or more rooms.

Low: none of these four is owned or used
Low Medium: one of the four is owned or used
High Medium: two of the four are owned or used
High: three or four of these items are owned or used

is not without foundation. A clear but not strong association is found between actual size of family and ownership of high status items. The index based on ownership of high status items then is developed in such a way as to control for actual family size as well as husband's income. Details of computation are provided in Appendix B. It is hoped that by this means, a relatively pure measure of preferences for consumer durables is obtained.

The second measure, proportion of years worked by the respondent since age 16, is seen as an important variable in the formation of tastes and preferences for consumer goods. This measure, although not without problems, is useful from a number of different standpoints. First, extended work experience of a respondent may be indicative of the family's preference for consumer goods enabled by a second pay-cheque. Limited work experience by the respondent could indicate relative preference for children as opposed to other consumer goods. Second, long work experience by the respondent may indicate a relative preference for this role rather than the childbearing role. This aspect of the measure borders on the sociological utilities model and will receive further attention in Chapter 6. Third, long work experience by the respondent may be associated with socializing influences toward consumption and levels of living not experienced by respondents with short work experience. One problem inherent in this measure is that some women may work because of their inability to have children. A second is that women might have had long work experience to enable them to support a large number of children. It would appear that in spite of these problems, proportion of years

worked by respondent serves as a crucial interstitial variable in analyzing the relative preference for children compared to other consumer goods.

Direct costs of children, although not as difficult to measure as economic utilities, were not specifically enquired about in the GAFS questionnaire. Anticipated expenditure by parents on post-secondary education for children is the only measure of direct costs that is included in the questionnaire. This measure could be viewed as an indication of expected child quality as well as direct cost, however, thereby enhancing its contribution to the analysis. Since the measure is prospective and asked of respondents even if they are nulliparous at present, the measure might not reflect reality so much as an ultimate longing, idealistic hope or normative expectation. Some support for the existence of this problem is seen in the observation that few respondents explicitly deny an interest in supporting their children in post-secondary education.

Indirect costs or opportunity costs are measured by the number of work years the respondent loses in childbearing and childrearing. An index is developed based on responses to questions on ideal age of a child when mother works or returns to work and ideal ages at which a mother ought to have her first and last child. This measure rests on normative views and differentials in such views held by respondents rather than on empirical actuality or personal intentions. It is therefore regarded as a solid measure of opportunity costs in absolute terms with no need to control for age, cohort membership or other background variables.

A second "proxy" measure of indirect or opportunity costs used in the analysis is respondent's educational attainment. This is seen largely as an indication of the respondent's "worth" in economic terms on the labour market. Although utilizing education as a measure of potential opportunity costs incurred in childbearing is not without problems, it is still viewed as a variable of basic relevance in the economic model. Its use may be problematic because it has been well argued that education is one of those peculiar variables used in sociological research as an empirical proxy for almost any theoretical variable. In this case, however, it could be argued that education is particularly closely allied with the concept of opportunity costs in the economic utilities model. Its inclusion here seems therefore justified.

The dependent variables used in the economic model analysis comprise a subset of those dependent variables used in the normative analysis in the preceding chapter. The particular variables of interest here include expected family size and wanted completed fertility 1 and 2. Operational definitions of these were provided in Chapter 4 so do not bear repeating here. Since the economic model focuses on fertility as reflective of a rational decision or at least a constrained choice, reliance on fertility measures which fail to exclude unwanted births appears to be an unrealistic test of the model. As Becker (1960) notes, unwanted births in the economic model essentially constitute an error factor. For this reason the present analysis is restricted to expected family size, presumably an

indication of wanted fertility, and wanted completed fertility measured in two ways.

Problems arise in any attempt to relate current income to expected and wanted completed family size. To a large extent, however, the measures of income position employed here alleviate at least some of these problems. In effect, it is not current income at all that is being related to fertility but relative income position, according to husband's income and family income, within each cohort separately. It could be argued that these measures are almost ideally suited to the purposes of testing the economic model for all but the most recent cohorts. Since the largest portion of both expected and wanted completed fertility for the earlier cohorts is actual fertility, current relative income position within cohort could be interpreted, on the average, as representing the real outcome of a projected relative income position at the time of childbearing. For the most recent cohorts, where expected and completed wanted fertility represent future expectations and aspirations this interpretation is, of course, less viable. On the average, however, it could be argued (and has been well argued in the literature) that a couple's future income, particularly their income position relative to others in their cohort, is closely related to their current income. In the situation where relative income position is based on husband's income, this seems to be a particularly viable argument since the factor of high variability in wife's income over time is removed.

Paralleling the analysis in Chapter 4, two analytical approaches are used to test the explanatory potential of the economic utilities

model. The first approach is to control and/or adjust for differences among cohorts in the three dependent variables by means of MCA. This is done first with each variable separately and then with all economic variables acting together. The second approach used is hierarchical multiple regression analysis, introducing ordinal-level economic variables as independent variables in a regression model applied separately to each cohort. Following this, a similar multiple regression analysis is undertaken for each dependent variable including cohort with the economic variables.

5.3 Economic Variables Considered Separately

As was done in the previous chapter, this section presents the results of MCA for the three dependent variables for each cohort with each of the operationalized variables in the economic model considered separately. This analysis is supported by analysis of variance results presented in Appendix D, Tables D.1 to D.36. In addition to the examination of separate effects, the analysis has the secondary purpose of testing for interactions among predictor variables prior to submitting all economic variables to the MCA simultaneously.

It is necessary, prior to undertaking further analysis, to test for intercorrelation among predictor variables. Analysis of variance requires a low or non-existent level of correlation to produce valid results. Table 5.2 shows that there is only one instance of high intercorrelation among operationalized economic variables. The high correlation between relative income position based on husband's income and relative income position based on family income suggests

Table 5.2 Correlation coefficients among economic variables

	Correlations								
	1	2	3	4	5	6	7	8	9
1. Cohort	1.0								
2. Relative income position (husband)	.01	1.0							
3. Relative income position (family)	-.03	.78	1.0						
4. Financial success	-.16	.37	.34	1.0					
5. Ownership of high status items	-.21	.05	.10	.26	1.0				
6. Proportion of years respondent worked	.24	.08	.21	.06	.08	1.0			
7. Respondent's education	.14	.26	.27	.21	.11	.12	1.0		
8. Extent of post-secondary support	.03	.14	.07	.15	.07	-.09	.08	1.0	
9. Implied work years lost through childbearing	-.31	.03	-.06	-.00	-.02	-.19	-.19	.01	1.0

that, to a large extent, these variables measure the same thing. For this reason, it was decided to eliminate relative income position (family) from the analysis. The relatively low levels of correlation among the remaining economic variables leads to the conclusion that these variables may be submitted to analysis of variance.

Table 5.3 shows the zero-order association of each of the operationalized economic variables in the analysis with expected family size, and wanted completed fertility 1 and 2, each in turn. For all three measures of wanted family size, cohort is the most important explanatory variable, followed closely by relative income position (husband), proportion of years respondent has worked and implied work years lost through childbearing in varying orders. Financial success and extent of post-secondary support are least important for all three dependent variables.

Tables 5.4 to 5.9 present for each of the three measures of wanted family size the variation in the measure across each economic variable followed by two-way classifications of cohort with each of the economic variables in turn. Unadjusted deviations by cohort from the grand mean and deviations adjusted separately for each of the economic variables under consideration are shown in the two-way classifications tables. This analysis is supported by summary tables of analysis of variance appearing in Appendix D, Tables D.1 to D.36.

In Table 5.4, it is seen that the variables accounting for most of the variance in expected family size are ownership of status items, cohort and relative income position (husband). The ranges for these variables are 1.65, 1.62 and 1.35 respectively. After

Table 5.3 Association (Eta) between economic variables and expected family size, wanted completed fertility 1 and wanted completed fertility 2

Independent variables	Eta's*		
	Expected F.S.	Wanted completed fertility 1	Wanted completed fertility 2
1. Cohort	.26	.24	.23
2. Relative income position (husband)	.23	.21	.22
3. Financial success	.11	.11	.12
4. Ownership of high status items	.19	.18	.18
5. Proportion of years respondent worked	.23	.23	.19
6. Respondent's education	.20	.18	.19
7. Extent of post-secondary support	.12	.11	.13
8. Implied work years lost through childbearing	.22	.23	.18

*Eta is the square root of the ratio of the sum of squares based on the unadjusted deviation for a predictor variable to the total sum of squares. It is the correlation ratio and indicates the capacity of the predictor variable to explain variation in the dependent variable.

Table 5.4 Variation in expected family size by cohort, relative income position (husband), financial success, ownership of high status items, proportion of years respondent worked, respondent's education, extent of post-secondary support and implied work years lost through childbearing. (Grand mean = 2.81)

Cohort		N	Relative income position (husband)		N	Financial success		N	Ownership of high status items		N
1	3.13	74	.4	3.32	100	Low	2.98	284	Very low	3.31	17
2	4.00	52	.5	2.29	56						
3	2.86	84	.7	2.51	38	Medium	2.64	282	Low	2.80	167
4	2.82	89	.8	3.09	61						
5	2.60	95	1.1	2.75	96	High	2.64	135	Normal	2.92	241
6	2.58	76	1.2	3.00	75						
7	2.38	123	1.3	1.97	37				High	2.65	172
			1.5	2.93	47						
			1.6	2.64	66				Very high	1.66	33
			1.8	2.92	9						
			2.1	2.86	6						
Range	1.62			1.35			.34			1.65	

Proportion of years respondent has worked		N	Extent of post-secondary support		N	Respondent's education		N	Implied work years lost through childbearing		N
0	2.99	133	Low	3.38	112	0-8 years	3.35	69	0-8 years	2.33	116
.01-.29	3.10	274	Medium	2.59	94				9-12 years	2.47	152
.30-.59	2.61	210	High	2.72	459	9-13 years but no post-secondary	2.91	379	13-18 years	3.02	174
.60-1.0	2.19	120				Post-secondary but no univ.	2.66	196	19 or more years	3.07	154
						Some univ.	2.15	93			
Range	.91			.66			1.20			.74	

controlling for cohort, the amount of variation explained by ownership of high status items remains significant at the .001 level (Table D.3). Relative income position of husband remains significant (at .060) after cohort is controlled (Table D.1). Variance explained by cohort remains significant at .001 after controlling for each of the seven economic variables in turn (Tables D.1 to D.7).

The general pattern of expected family size across categories of cohort and economic variables is shown in Table 5.4. A clear tendency for expected family size to decrease by cohort is apparent although cohort 2 has a higher expected family size than cohort 1. Interestingly, no clear pattern of expected family size by relative income position of husband is revealed. Of those respondents with relative income positions lower than the mean, the highest and close to the lowest expected family sizes are found. Those considerably above the mean have expected family sizes very close to the mean expected family size for the sample, even though these respondents are not over-represented in the sample as shown by the N's. Respondents with low subjective feelings of financial success have family size expectations above the sample mean while there is no difference in expectations among those with medium or high feelings of financial success.

Ownership of high status items is negatively related to expected family size with those respondents in very low ownership positions having very high expected family size and those in very high ownership positions having rather low expectations. Interestingly, those with "normal" ownership of high status items have slightly

higher expected family size, on average, than those with "low" or "high" ownership. Proportion of years worked shows a general inverse relationship with expected family size, except that those respondents with low but non-zero work experience have higher expectations than those with no experience at all in the work force. Education, as found earlier, bears a clear inverse relationship to expected family size. Extent of post-secondary support anticipated for children shows no pattern of relationship with expected family size. Those who intend "low" support have highest expected family size and those who intend "medium" support have lowest. The normative measure of opportunity costs, implied work years lost through childbearing, shows a neat direct relationship with expected family size.

The Multiple Classification Analysis tables for each of the three dependent variables (Tables 5.5, 5.7 and 5.9) show the effect on each cohort of each of the economic variables in turn. For each economic variable, the tables show unadjusted and adjusted deviations from the grand mean. From Table 5.5, it is clear that, as was the case for the background variables analyzed in Chapter 4, the general pattern is for expected family size to decrease with cohort although not consistently. After controlling for each economic variable except implied work years lost through childbearing, cohort 2 has the highest expected family size and cohort 7 the smallest. After controlling for implied work years lost, cohort 6 shows a slightly lower expected family size than cohort 7 but cohort 2 still has the largest expectations. Cohort 1 after adjustment for each economic variable but proportion of years respondent has worked, has an

Table 5.5 Expected family size by cohort and economic variables each in turn. Unadjusted and adjusted deviations by cohort.

Cohort	Deviations from grand mean (2.81)							
	Relative income(husband)		Prop yrs worked		Financial success		Ownership of high status items	
	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted
1	.32	.21	.17	-.06	.38	.38	.34	.40
2	1.19	1.08	1.10	.97	1.14	1.18	1.24	1.22
3	.05	-.00	.04	-.09	.01	.11	.12	.20
4	.01	-.05	.06	.03	.06	.12	.01	.04
5	-.21	-.32	.01	.01	-.01	-.03	-.16	-.12
6	-.23	.12	-.29	-.15	-.30	-.33	-.32	-.32
7	-.43	-.37	-.34	-.15	-.38	-.46	-.38	-.51
Range	1.62	1.35	1.44	1.12	1.52	1.64	1.62	1.73
Beta								
	Cohort	.24	Cohort	.17	Cohort	.27	Cohort	.30
	Relin(h)	.19	Yrs worked	.24	Finsuccess	.15	Ownership	.21
	Respondent's education		Extent of post-secondary support		Implied work years lost			
	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted		
1	.31	.30	.40	.39	.30	.14		
2	1.21	1.12	1.23	1.15	1.00	.92		
3	.05	.04	.07	.06	.02	-.06		
4	.04	.07	.01	.02	.00	-.02		
5	-.03	-.08	-.07	-.03	.02	.01		
6	-.34	-.31	-.31	-.31	-.34	-.22		
7	-.36	-.32	-.39	-.38	-.25	-.19		
Range	1.57	1.44	1.62	1.53	1.34	1.14		
Beta								
	Cohort	.24	Cohort	.26	Cohort	.19		
	Education	.16	Post-sec	.14	Work yrs lost	.17		

expected family size above the mean but not as far above the mean as cohort 2. Cohorts 3, 4 and 5 remain close to the mean after controlling for each economic variable.

The general effect of controlling for each of the seven economic variables in turn is to decrease variability in expected family size, except for financial success and ownership of status items where variability across cohorts is increased. No clear pattern by cohort emerges after adjusting for each of the economic variables. The beta weights appearing in Table 5.5 show that when each economic variable, except proportion of years respondent has worked, is acting together with cohort, cohort has the greater influence on expected family size. The beta weights also support the earlier finding based on unadjusted deviations that cohort, husband's relative income position and proportion of years worked by respondent are the important variables explaining variance in expected family size. After adjustment, however, ownership of high status items emerges as a fourth important explanatory variable.

Table 5.6 shows unadjusted variation in wanted completed fertility 1 by cohort and the seven economic variables separately. For wanted completed fertility 1, the variables accounting for most of the variance include cohort, ownership of high status items and husband's relative income position once again. The ranges for these variables are 1.47, 1.37 and 1.31 respectively. The summary tables of analysis of variance in Appendix D show that after controlling for each of the economic variables in turn, the amount of variance

Table 5.6 Variation in wanted completed fertility 1 by cohort, relative income position (husband), financial success, ownership of high status items, proportion of years respondent worked, respondent's education, extent of post-secondary support and implied work years lost through childbearing. (Grand mean = 2.70)

Cohort		N	Relative income position (husband)		N	Financial success		N	Ownership of high status items		N
1	3.02	74	.4	3.20	100	Low	2.89	284	Very Low	3.02	17
2	3.82	52	.5	2.27	56						
3	2.69	84	.7	2.46	38	Medium	2.57	282	Low	2.75	167
4	2.73	89	.8	2.85	61						
5	2.44	95	1.1	2.64	96	High	2.53	135	Normal	2.81	241
6	2.49	76	1.2	2.88	75						
7	2.35	123	1.3	1.89	37				High	2.52	172
			1.5	2.77	47						
			1.6	2.59	66				Very High	1.65	33
			1.8	2.87	9						
			2.1	2.55	6						
Range	1.47			1.31			.36			1.37	

Proportion of years respondent has worked		N	Extent of post-secondary support		N	Respondent's education		N	Implied work years lost through childbearing		N
0	2.86	133	Low	3.21	112	0-8 years	3.16	69	0-8 years	2.22	116
.01-.29	2.97	274	Medium	2.48	94	9-13 years but no post-secondary	2.81	379	9-12 years	2.35	152
.30-.59	2.49	210	High	2.60	459	Post-secondary but no univ.	2.52	196	13-18 years	2.92	174
.60-1.0	2.15	120				Some univ.	2.12	93	19 or more years	2.98	154
Range	.82			.73			1.04			.74	

explained by cohort remains significant at .001 (Tables D.13 to D.19). Ownership of high status items remains significant at .001 after cohort is controlled (Table D.15). After controlling for cohort, husband's relative income position also remains statistically significant at .089 (Table D.13).

Patterns of wanted completed fertility 1 across categories of cohort and some economic variables resemble those for expected family size. These economic variables include feelings of financial success, ownership of high status items, proportion of years respondent has worked, respondent's education, extent of post-secondary support and implied work years lost through childbearing. For husband's relative income position, no clear pattern is evidenced for wanted completed fertility 1, just as was found for expected family size. Respondents in relative income positions below the mean for the sample indicate the highest levels of wanted completed fertility 1 and close to the lowest. Respondents with relative income positions slightly above the mean (1.3 times the mean) indicate the lowest wanted completed fertility 1, as was true for expected family size. Those considerably above the mean in terms of relative income show wanted completed fertility close to that for the sample. The general pattern of wanted completed fertility 1 by cohort is inverse but the trend is not as clear as for expected family size, cohort 4 is higher than cohort 3 and cohort 6 is higher than cohort 5.

Table 5.7 shows the results of the Multiple Classification Analysis for wanted completed fertility 1 for each economic variable

Table 5.7 Wanted completed fertility 1 by cohort and economic variables each in turn. Unadjusted and adjusted deviations by cohort

Cohort	Deviations from grand mean (2.70)							
	Relative income(husband)		Prop yrs worked		Financial success		Ownership of high status items	
	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted
1	.32	.22	.18	-.05	.38	.38	.33	.40
2	1.12	1.01	1.04	.88	1.09	1.12	1.16	1.14
3	-.01	-.07	-.05	-.18	-.06	.03	.06	.14
4	.03	-.05	.05	.03	.06	.11	.02	.06
5	-.26	-.34	-.02	-.01	-.06	-.07	-.21	-.18
6	-.21	.10	-.23	-.10	-.26	-.28	-.28	-.28
7	-.35	-.27	-.27	-.08	-.32	-.39	-.31	-.45
Range	1.47	1.35	1.31	1.06	1.41	1.51	1.47	1.59
Beta								
	Cohort	.23	Cohort	.16	Cohort	.26	Cohort	.28
	Relinc(h)	.18	Yrs worked	.24	Finsuccess	.14	Ownership	.20

	Respondent's education		Extent of post-secondary support		Implied work years lost	
	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted
1	.32	.31	.42	.40	.34	.18
2	1.10	1.03	1.15	1.08	.95	.85
3	-.04	-.04	-.02	-.03	-.07	-.15
4	.06	.08	.02	.03	.00	-.01
5	-.07	-.11	-.11	-.07	-.01	-.02
6	-.30	-.28	-.28	-.28	-.33	-.20
7	-.29	-.26	-.32	-.31	-.19	-.12
Range	1.40	1.31	1.47	1.39	1.28	1.05
Beta						
	Cohort	.23	Cohort	.25	Cohort	.18
	Education	.15	Post-sec	.13	Work yrs lost	.18

examined separately with cohort. As was the case for expected family size, the general pattern is for wanted completed fertility 1 to decline with cohort although not uniformly. After controlling for each economic variable in turn, cohort 2 has the highest wanted completed fertility 1. After controlling for financial success, ownership of high status items and extent of post-secondary support, cohort 7 has the lowest wanted completed fertility 1. Cohort 6 has the lowest after controlling for respondent's education and implied work years lost through childbearing. After adjusting for husband's relative income, cohort 5 has the lowest wanted completed fertility 1, followed closely by cohort 7. Cohort 3 shows the lowest wanted completed fertility 1 after controlling for proportion of years respondent has worked, followed closely by cohort 6. Cohorts 3, 4 and 5 remain close to the sample mean after controlling for financial success, ownership of high status items, respondent's education and extent of post-secondary support. After adjusting for relative income position of husband, proportion of years respondent has worked and implied work years lost through childbearing, those cohorts closest to the mean are 3, 4, 6; 1, 4, 5; and 4, 5, 7 respectively.

Variability across cohorts is generally decreased by adjustment for each economic variable in turn except in the case of financial success and ownership of high status items where variability in wanted completed fertility 1 actually increases after adjustment. Beta weights appearing at the bottom of Table 5.7 reveal that when each economic variable is acting together with cohort, except for proportion of years respondent has worked and implied work years lost

through childbearing, cohort has the greater influence on wanted completed fertility 1. Cohort has the same beta weight as implied work years lost through childbearing when these two variables are acting together. Proportion of years respondent has worked is a variable having greater influence on wanted completed fertility 1 than cohort, as was found for expected family size. Beta weights appearing in Table 5.7 support the earlier finding based on unadjusted deviations from the grand mean (Table 5.3) that cohort, proportion of years respondent has worked, relative income position of husband and implied work years lost through childbearing are the important variables in explaining variability in wanted completed fertility 1. Ownership of high status items also seems to be an important explanatory variable.

From Table 5.8 it is seen that the variables accounting for most of the variance in wanted completed fertility 2 include ownership of high status items, cohort and relative income position of husband, followed closely by respondent's education. These are the same variables found to be important in explaining variance in expected family size (in the same order) and wanted completed fertility 1. The difference for wanted completed fertility 2 is that education of respondent appears to be an additional important variable, as indicated by range of variability. The ranges for the four variables are 1.54, 1.47, 1.29 and 1.24 respectively. After controlling for each of the economic variables in turn, cohort remains significant in amount of variance explained at .002 or higher (Tables D.25 to D.31 in Appendix D). Ownership of status items remains significant at .001 after

Table 5.8 Variation in wanted completed fertility 2 by cohort, relative income position (husband), financial success, ownership of high status items, proportion of years respondents worked, respondent's education, extent of post-secondary support and implied work years lost through childbearing. (Grand mean = 2.77)

Cohort		N	Relative income position (husband)		N	Financial success		N	Ownership of high status items		N
1	3.11	74	.4	3.27	100	Low	3.01	284	Very low	3.20	17
2	3.85	52	.5	2.29	56						
3	2.78	84	.7	2.52	38	Medium	2.63	282	Low	2.76	167
4	2.74	89	.8	3.08	61						
5	2.60	95	1.1	2.67	96	High	2.51	135	Normal	2.88	241
6	2.57	76	1.2	2.99	75						
7	2.38	123	1.3	1.98	37				High	2.61	172
			1.5	2.87	47						
			1.6	2.54	66				Very High	1.66	33
			1.8	2.88	9						
			2.1	2.68	6						
Range	1.47			1.29			.50			1.54	

Proportion of years respondent has worked		N	Extent of post-secondary support		N	Respondent's education		N	Implied work years lost through childbearing		N
0	2.99	133	Low	3.41	112	0-8 years	3.38	69	0-8 years	2.35	116
.01-.29	3.07	274	Medium	2.58	94	9-13 years but no post-secondary	2.93	379	9-12 years	2.46	152
.30-.59	2.60	210	High	2.69	459	Post-secondary but no univ.	2.65	196	13-18 years	3.04	174
.60-1.0	2.26	120				Some univ.	2.16	93	19 or more years	3.01	154
Range	.81			.83			1.24			.69	

controlling for cohort (Table D.27). After controlling for cohort, relative income position of husband remains significant at .059 (Table D.25). Education remains significant at .008 in explaining variance in wanted completed fertility 2 after controlling for cohort (Table D.29).

The patterns across categories of cohort and the economic variables as shown in Table 5.8 for wanted completed fertility 2 parallel those found for expected family size. For cohort and relative income position of husband the patterns found for wanted completed fertility 2 are virtually identical to those found for expected family size in Table 5.4. For ownership of status items, proportion of years respondent has worked, respondent's education and extent of post-secondary support the patterns across categories are the same as those found for expected family size and wanted completed fertility 1. The pattern for the variable financial success for wanted completed fertility 2 more closely resembles that for wanted completed fertility 1, with those respondents with high feelings of financial success having slightly lower wanted completed fertility than those with medium feelings, than it does the pattern for expected family size. For implied years lost through childbearing, a pattern discrepant with both previous patterns is found for wanted completed fertility 2. Here those respondents with 13-18 implied work years lost indicate a slightly higher wanted completed fertility 2 than those with 19 or more implied years lost.

The results of MCA by cohort with each economic variable

considered separately for wanted completed fertility 2 are shown in Table 5.9. As was the case for both expected family size and wanted completed fertility 1, the general pattern is for wanted completed fertility 2 to decrease with cohort although, once again, this is not consistent. Both before and after adjustment for each of the seven economic variables in turn, cohort 2 has the largest wanted completed fertility 2 by far. Cohort 7 shows the lowest wanted completed fertility 2 after controlling for feelings of financial success, ownership of high status items, respondent's education, extent of post-secondary support and implied work years lost through childbearing. This parallels findings for wanted completed fertility 1 except for education where cohort 6 had the lowest wanted completed fertility 1. Cohort 5 has lowest wanted completed fertility 2 after controlling for husband's relative income position, as was true for wanted completed fertility 1 but not for expected family size where cohort 7 had the lowest, closely followed by cohort 5. Paralleling findings for wanted completed fertility 1, cohort 3 shows the lowest wanted completed fertility 2 after adjustment is made for proportion of years respondent has worked. Cohorts 6 and 7 are a close second for lowest rank. Cohorts 3, 4 and 5 remain close to the mean wanted completed fertility 2 after adjustment is made for financial success, ownership of high status items, respondent's education and extent of post-secondary support. Closest to the mean after adjusting for husband's relative income position, proportion of years respondent has worked and implied work years lost through childbearing are cohorts 3, 4, 6; cohorts 1, 4, 5; and cohorts, 4, 5, 6 respectively.

Table 5.9 Wanted completed fertility 2 by cohort and economic variables each in turn. Unadjusted and adjusted deviations by cohort

Cohort	Deviations from grand mean (2.77)							
	Relative income(husband)		Prop yrs worked		Financial success		Ownership of high status items	
	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted
1	.34	.24	.11	-.09	.35	.35	.36	.41
2	1.08	.97	.92	.81	1.00	1.04	1.12	1.11
3	.01	-.08	-.01	-.13	-.05	.07	.08	.15
4	-.03	-.13	.03	.01	.01	.07	-.03	-.01
5	-.17	-.28	.10	.10	.04	.02	-.11	-.08
6	-.20	.12	-.25	-.12	-.23	-.25	-.30	-.30
7	-.39	-.26	-.28	-.12	-.35	-.44	-.34	-.46
Range	1.47	1.25	1.20	.93	1.35	1.48	1.46	1.57
Beta								
	Cohort	.21	Cohort	.15	Cohort	.24	Cohort	.27
	Relinc(h)	.19	Yrs worked	.22	Finsuccess	.16	Ownership	.20
	Respondent's education		Extent of post-secondary support		Implied work years lost			
	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted		
1	.26	.24	.36	.34	.27	.11		
2	1.07	.96	1.07	.98	.88	.80		
3	-.04	-.05	-.02	-.04	-.09	-.17		
4	.01	.03	-.02	-.00	-.02	-.03		
5	.05	-.00	-.03	.01	.09	.09		
6	-.26	-.22	-.22	-.22	-.24	-.12		
7	-.33	-.28	-.34	-.33	-.25	-.19		
Range	1.40	1.24	1.41	1.31	1.13	.99		
Beta								
	Cohort	.20	Cohort	.22	Cohort	.17		
	Education	.17	Post-sec	.16	Work yrs lost	.17		

As was the case for both expected family size and wanted completed fertility 1, adjusting for economic variables for wanted completed fertility 2 has the general effect of decreasing variability across cohorts except when adjustments are made for financial success and ownership of high status items. Beta weights show that except for proportion of years respondent has worked and implied work years lost through childbearing, each economic variable when acting together with cohort has less influence than cohort on variability in wanted completed fertility 2. As was true for wanted completed fertility 1, cohort when acting together with implied work years lost has the same beta weight as this economic variable. Cohort, proportion of years respondent has worked, ownership of high status items and relative income position of husband appear to be the important variables in explaining wanted completed fertility 2. These are followed closely by respondent's education and implied work years lost through child-bearing. These findings are consistent with earlier findings from Table 5.3 based on unadjusted deviations.

The second step in this analysis of separate effects of economic variables is to test for interactions among predictor variables prior to submitting to further analysis all economic variables acting together. As was done in Chapter 4, tests for interaction are made by means of two-way analysis of variance. The conditions specified in Chapter 4 are adhered to here as well. Appendix tables D.1 to D.36 present in summary the results of the analysis of variance for each of the three dependent variables.

For expected family size, the following interactions with accompanying levels of statistical significance of F ratios are found in Tables D.1 to D.12:

Cohort - Financial success	.005
Cohort - Proportion of years worked	.005
Cohort - Extent of post-secondary support	.022

For wanted completed fertility 1, the following interactions are found:

Cohort - Financial success	.001
Cohort - Proportion of years worked	.070
Cohort - Extent of post-secondary support	.023
Proportion of years worked - Implied work years lost through childbearing	.065

Statistically significant interactions for wanted completed fertility 2 include the following:

Cohort - Financial success	.001
Cohort - Proportion of years worked	.008
Cohort - Extent of post-secondary support	.009

5.4 Economic Variables Acting Together

This section continues the Multiple Classification Analysis by analyzing the effects of all economic variables acting together with cohort on the three dependent variables. It further presents the results of the multiple regression analysis of all economic variables within cohort categories. Interactive variables pose problems for this continued analysis, as was discussed in Chapter 4. After careful consideration of the possible options, it was decided in this instance

to proceed with the analysis by eliminating one of the variables in each interactive pair. For each of the three dependent variables, the MCA was done twice with different sets of omitted variables. This approach was taken here rather than the combination variable approach taken in Chapter 4 because of the interpretative limitations of the combination variable approach in ascertaining explanatory power.

Table 5.10 presents the unadjusted and adjusted deviations from the grand mean for expected family size with the following interactive variables omitted from the analysis: financial success, proportion of years respondent has worked and extent of post-secondary support. Beta weights at the bottom of Table 5.10 indicate that cohort, ownership of high status items and implied work years lost through childbearing are the important variables explaining expected family size once all other variables in the model are held constant. It is of interest that husband's relative income position, a variable found to be important in the earlier separate and unadjusted analyses is not found to be of primary importance in this analysis.

The general effect of adjustment for all five variables in the model simultaneously is to decrease the deviations from the grand mean. The pattern of adjustment among cohorts is such that the decline in expected family size as cohort increases becomes slightly less accentuated. Except for cohort 1, the inverse relationship of expected family size by cohort is clear and unilinear, exhibiting a still impressive range of 1.10 children. The decrease in deviation is most pronounced in cohort 2 where the deviation from the grand mean, both

Table 5.10 Expected family size by cohort with relative income position (husband), ownership of high status items (standardized for income and actual family size), respondent's education and implied work years lost through childbearing acting together. Unadjusted and adjusted deviations. Beta weights for economic variables and multiple R for all variables together

Cohort	N		Deviations from grand mean (2.76)	
			Unadjusted	Adjusted
c.1	61		.32	.16
c.2	38		1.02	.87
c.3	70		.21	.17
c.4	85		.03	.02
c.5	92		-.13	-.23
c.6	68		-.35	-.04
c.7	122		-.33	-.15
Range			1.37	1.10
Beta				
Cohort		.192		
Relative income (husband)		.119		
Status items		.171		
Education		.092		
Work years lost		.148		
Multiple R		.310		

unadjusted and adjusted, is greatest. Effects of adjustment are less substantial but still large in the negative direction for cohort 7 and cohort 5. Adjustment effects are least pronounced for cohort 4 and cohort 6.

In Table 5.11, the MCA results of an analysis of all seven economic variables with cohort omitted for expected family size appear. The beta weights in this instance provide a striking contrast to those presented in Table 5.10. After adjustment for the seven economic variables simultaneously, the variables having the largest influence on expected family size, in rank order, are husband's relative income position, proportion of years respondent has worked and ownership of high status items. It is surprising that husband's relative income position gains in importance, but is still slightly less important in absolute magnitude than cohort, once cohort is eliminated from the analysis. The possible explanation that cohort and relative income position are interactive must be dismissed, as shown in Appendix Table D.1. Even the correlation of relative income position and cohort is trivial, as evidenced in Table 5.2. It is secondly surprising that implied work years lost, a variable found to be third in importance in the first MCA (Table 5.10) now becomes one of the least important explanatory variables.

Beta weights appearing in Table 5.12 show that the same three variables in the same rank order are important in explaining wanted completed fertility 1 as were found important in explaining expected family size: cohort, ownership of status items and implied work years

Table 5.11 Eta and beta weights for expected family size by relative income position (husband), financial success, ownership of high status items (standardized for income and actual family size), proportion of years respondent has worked, respondent's education, extent of post-secondary support and implied work years lost through childbearing Multiple R for all variables together

	Eta	Beta
Relative income (husband)	.206	.182
Financial success	.049	.023
Status items	.207	.160
Years worked	.226	.180
Education	.163	.109
Post-secondary support	.156	.130
Work years lost	.000	.027
Multiple R	.314	

Table 5.12 Wanted completed fertility 1 with relative income position (husband), ownership of high status items (standardized for income and actual family size), respondent's education and implied work years lost through childbearing acting together. Unadjusted and adjusted deviations. Beta weights for economic variables and multiple R for all variables together

		Deviations from grand mean (2.67)	
Cohort	N	Unadjusted	Adjusted
c.1	61	.28	.14
c.2	38	.91	.78
c.3	70	.14	.10
c.4	85	.05	.03
c.5	92	-.16	-.23
c.6	68	-.30	-.03
c.7	122	-.25	-.21
Range		1.21	.99
Beta			
Cohort	.177		
Relative income (husband)	.104		
Status items	.174		
Education	.101		
Work years lost	.164		
Multiple R	.296		

lost through childbearing. In this case, however, these results are consistent with the findings based on unadjusted deviations (Table 5.3) but not with the separate analyses of effects on wanted completed fertility 1 in which husband's relative income position was found to be important (Table 5.7).

As was found for expected family size, the general effect of adjusting for the five variables in the MCA simultaneously is to decrease variability in wanted completed fertility 1 across cohorts. Here, however, there are two exceptions to the inverse relationship of wanted completed fertility 1 with cohort. These occur in cohorts 1 and 6 following adjustment. The general pattern, however, favours a non-uniform decline in wanted completed fertility 1 by cohort. In this instance, the range (from cohort 2 to cohort 7) is less substantial than it was for expected family size. Cohort 2 experiences the greatest increase as a result of adjustment while cohorts 5 and 7 experience small but significant decreases. Effects of adjustment are least pronounced in cohort 6.

Table 5.13 presents the results of an MCA in which cohort and implied work years lost through childbearing are omitted from the model. This is necessary in this instance because of the statistically significant interaction between proportion of years respondent has worked and implied work years lost through childbearing reported earlier. For wanted completed fertility 1, the beta weights appearing in Table 5.13 indicate that the same three variables found to be important in explaining expected family size emerge but in a different order. Here, proportion of years respondent has worked is most

important, followed by husband's relative income position and ownership of high status items. Once again, a variable found not to be important in the earlier MCA (Table 5.12), relative income position of husband, becomes a salient explanatory variable once cohort is omitted from the analysis.

Table 5.14 presents an MCA for wanted completed fertility 2 with one variable from each interacting pair omitted. The variables omitted here are the same three that were eliminated in analyses of the other two dependent variables: financial success, proportion of years respondent has worked and extent of post-secondary support. Beta weights reveal that the three variables found to have explanatory power for expected family size and wanted completed fertility 1 appear as important here but the order changes. Ownership of high status items emerges as most significant in explaining wanted completed fertility 2, followed by implied work years lost through childbearing and cohort.

As was true for the other two dependent variables, the general effect of adjustment for the five variables in the MCA is to decrease variation in wanted completed fertility 2 across cohorts. Here also the pattern of adjustment clearly supports the tendency for wanted completed fertility 2 to decline with cohort, except for cohort 1. In this case, the range from cohort 2 to 7 is smaller than that found for wanted completed fertility 1 and considerably smaller than that found for expected family size. Cohort 2 evidences the largest adjustment in deviation in a positive direction. Like the patterns for the other two dependent variables, cohorts 5 and 7 experience the largest negative adjustments.

Table 5.13 Eta and beta weights for wanted completed fertility 1 by relative income position (husband), financial success, ownership of high status items (standardized for income and actual family size), proportion of years respondent has worked, respondent's education, and extent of post-secondary support. Multiple R for all variables together

	Eta	Beta
Relative income (husband)	.161	.146
Financial success	.063	.034
Status items	.180	.142
Years worked	.199	.158
Education	.160	.107
Post-secondary support	.165	.134
Multiple R	.278	

Table 5.14 Wanted completed fertility 2 with relative income position (husband), ownership of high status items (standardized for income and actual family size), respondent's education and implied work years lost through childbearing acting together. Unadjusted and adjusted deviations. Beta weights for economic variables and multiple R for all variables together

			Deviations from grand mean (2.72)	
Cohort	N		Unadjusted	Adjusted
c.1	61		.35	.14
c.2	38		.92	.69
c.3	70		.14	.06
c.4	85		.00	.03
c.5	92		-.09	-.22
c.6	68		-.32	-.03
c.7	122		-.30	-.11
Range			1.24	.80
Beta				
Cohort		.146		
Relative income (husband)		.128		
Status items		.167		
Education		.102		
Work years lost		.158		
Multiple R		.297		

Beta weights presented in Table 5.15, in which all seven economic variables are submitted together to MCA, show that those three variables found to be important in explaining expected family size and wanted completed fertility 1 are again important. Rank order of these variables including husband's relative income position, proportion of years respondent has worked and ownership of high status items, for wanted completed fertility 2 is the same as it was for expected family size.

To summarize the results of the Multiple Classification Analysis with all economic variables acting together, it seems justified to state that considerable support is found for the explanatory potential of the economic utilities model. For all three dependent variables, the analysis clearly underlines the importance of preference for consumer durables, measured by ownership of high status items (standardized for income and actual fertility) and husband's relative income position as determinants in fertility expectations and wanted completed fertility. That indirect or opportunity costs have an influence as well is supported by the finding that implied work years lost through childbearing and proportion of years respondent has worked emerge as crucial explanatory variables. In addition, cohort appears to be a basic variable explaining fertility expectations and differentials in wanted completed fertility.

The next step in the analysis, multiple regression analysis applied to each cohort separately and summarized for each dependent variable including cohort, permits a closer examination of the differential effects of the economic variables within cohorts, as well as analysis of the direction of these effects. Since all of the economic variables under consideration are at least on ordinal scales, there is no need to eliminate any of them to satisfy the multiple regression requirement that

Table 5.15 Eta and beta weights for wanted completed fertility 2 by relative income position (husband), financial success, ownership of high status items (standardized for income and actual family size), proportion of years respondent has worked, respondent's education, extent of post-secondary support and implied work years lost through childbearing. Multiple R for all variables together

	Eta	Beta
Relative income (husband)	.204	.178
Financial success	.077	.050
Status items	.206	.154
Years worked	.217	.165
Education	.176	.117
Post-secondary support	.162	.134
Work years lost	.012	.033
Multiple R	.314	

variables be at least on a nominal scale of measurement. As in Chapter 4, hierarchical regression analysis is undertaken with the order of variable entry determined by zero-order relationships between the independent and dependent variables. The order of appearance of independent variables in each table reflects order of submission to the regression equation.

Table 5.16 presents the results of multiple regression analysis for each cohort and for the entire sample with expected family size as the dependent variable. Starred regression coefficients have reached at least the .05 level of statistical significance. For the complete sample, those economic variables exerting a statistically significant influence on expected family size include proportion of years respondent has worked, work years lost through childbearing, education, ownership of high status items, and feelings of financial success. All variables except implied work years lost through childbearing exert a negative impact on expected family size. For feelings of financial success, however, this effect is negligible. Interestingly, husband's income, defined as relative income position of husband in MCA and found to be an important explanatory variable does not reach statistical significance in this analysis.

The variable having the most pronounced negative effect on expected family size, proportion of years respondent has worked, reaches statistical significance in cohorts 1, 3, 4 and 5 where its influence is consistently negative and fairly sizeable. Respondent's education has a significant negative effect on expected family size only in cohorts 4 and 6. The variable measuring relative preference for consumer durables is statistically significant and negative in all but the first

Table 5.16 Standardized regression coefficients by cohort using income (husband), financial success, ownership of high status items, proportion of years respondent has worked, respondent's education, extent of post-secondary support and implied work years lost through child-bearing as independent variables and expected family size as dependent variable

Cohort	N	Coefficients			
		Income (Husband)	Proportion years worked	Work years lost	Respondent's education
1	98	-.09	-.30*	-.16	-.07
2	70	-.09	-.17	-.31*	.07
3	115	.07	-.24*	-.05	.10
4	119	.30*	-.20*	-.01	-.24*
5	115	-.18	-.23*	.02	.08
6	156	-.13	.09	.00	-.34*
7	148	.10	-.01	.39*	.04
Total	1045	.04	-.19*	.09*	-.13*

*statistically significant at .05 or lower

Table 5.16 Continued

Cohort	Coefficients				
	Ownership of high status items	Post-secondary support	Financial success	R^2	SEE
1	-.11	-.33*	.29*	.26	1.86
2	-.26*	-.28*	-.36*	.37	1.64
3	- 29*	-.13	-.22	.17	1.66
4	-.19*	-.19*	-.19*	.35	1.24
5	-.30*	.01	.08	.15	1.34
6	-.46*	.04	.07	.31	1.00
7	.08	.02	.01	.19	.93
Total	-.11*	-.13	-.00*	.12	1.44

and last cohorts. Its impact is greatest in cohort 6. Implied work years lost through childbearing, the only variable to have an overall positive effect on expected family size, is shown as having a sizeable positive impact only in cohort 7 and a statistically significant negative impact in cohort 2. The only variable measuring direct costs of children, extent of post-secondary support, although not significant overall, exerts a negative statistically significant influence in cohorts 1, 2 and 4. Income emerges as statistically significant only in cohort 4 where it has a positive influence.

It is interesting to notice that economic variables, for all three dependent variables, are most successful in explaining fertility in cohorts 2, 4 and 6, as evidenced by the R^2 appearing in Tables 5.17, 5.18 and 5.19. Overall, explanation is more successful using an economic utilities model than by referencing the more traditional background variables.

Tables 5.19 through 5.22 present multiple regression results for the total sample and major religion categories for economic variables with cohort added to the model. Each table shows standardized coefficients for the three dependent variables. Once cohort is added to the regression model for the entire sample, it surpasses all economic variables in its negative influence on expected family size. Work years lost through childbearing fails to reach statistical significance. This is not the case for Protestants, however, as is shown in Table 5.20. Preference for consumer durables, as indicated by ownership of high status items, and respondent's education have a greater negative influence on expected family size than does cohort membership.

For Catholics, the importance of cohort diminishes somewhat, although still statistically significant with a negative effect. Here, surprisingly, ownership of high status items and respondent's education do not reach statistical significance in their influence on expected family size. The variable of central importance for Catholics is proportion of years respondent has worked. Cohort membership and extent of post-secondary support also are important, both with negative effects. These findings seem to suggest that the economic utilities model with its rationalistic preferences has more relevance to Protestant fertility patterns and aspirations than to Catholic.

Regression coefficients resulting from an analysis of wanted completed fertility 1 with only economic variables in the equation appear in Table 5.17. It is immediately apparent that for the total sample, the variables having a statistically significant effect on wanted completed fertility 1 are the same variables as were found to be important in explaining expected family size. Subjective feeling of financial success does not reach statistical significance in this instance, however.

The variable having the largest overall impact on wanted completed fertility 1, proportion of years respondent has worked, reaches statistical significance in cohorts 1, 3, 4 and 5 once again. Willingness to support a child at the post-secondary level of education emerges as having a negative impact that is significant only in cohorts 1 and 4. As was true for expected family size, respondent's education has a statistically significant negative effect on wanted completed fertility 1 only in cohorts 4 and 6. Implied work years lost, the only variable to exert a positive effect on wanted completed fertility 1, only reaches

Table 5.17 Standardized regression coefficients by cohort using income (husband), financial success, ownership of high status items, proportion of years respondent has worked, respondent's education, extent of post-secondary support and implied work years lost through childbearing as independent variables and wanted completed fertility 1 as dependent variable

Cohort	N	Coefficients			
		Proportion years worked	Work years lost	Income (husband)	Ownership of high status items
1	98	-26*	-.09	-.06	-.13
2	70	-.13	-.26	.16	-.19
3	115	-.25*	-.07	.02	-.27*
4	119	-.20*	.03	.28*	-.22*
5	115	-.24*	.06	-.16	-.27*
6	156	.17	-.01	-.15	-.44*
7	148	.01	.39*	.08	.04
Total	1045	-.17*	.11*	.03	-.11*

Table 5.17 Continued

Cohort	Coefficients				
	Respondent's education	Post-secondary support	Financial success	R^2	SEE
1	-.09	-.31*	.25*	.23	1.84
2	.03	-.27	-.44	.36	1.66
3	.15	-.15	-.19	.17	1.59
4	-.23*	-.20*	-.20*	.35	1.21
5	.09	.03	.12	.14	1.25
6	-.33*	.08	.01	.29	1.00
7	.08	.01	-.02	.17	.91
Total	-.11*	-.14*	-.02	.11	1.40

statistical significance in the latest cohort. Ownership of high status items is important only for the middle cohorts where it exerts the strongest influence in cohort 6. Although husband's income and subjective feelings of financial success do not have a statistically significant influence for the total sample, in cohort 4 both emerge as significant variables with income having a positive effect and financial success a negative effect. The latter variable is significant as well, with a positive influence, in cohort 1.

Turning now to Tables 5.19 through 5.22, it is apparent that with the addition of cohort to the regression analysis, a slightly greater proportion of variance in wanted completed fertility 1 is experienced. For the total sample, as shown in Table 5.19, cohort has an impact on wanted completed fertility 1 that exceeds that of any other variables. Ownership of status items ranks a close second. For Protestants, in Table 5.20, the coefficient for cohort is even larger than for the total sample but the effect of ownership of status items and respondent's education exceeds that of cohort. This is clearly not true in the case of Catholics, where the effect of cohort is diminished and proportion of years respondent has worked and willingness to support children in post-secondary school are more important. It is interesting to note from a comparison of R^2 appearing in Tables 5.20 and 5.21 that for all three dependent variables a greater proportion of the variance in fertility is explained by economic variables, including cohort, for Protestants than for Catholics.

Table 5.18 reveals that the effects of economic variables on wanted completed fertility 2 for the total sample are identical in direction and close in magnitude as those for wanted completed fertility

Table 5.18 Standardized regression coefficients and standard errors by cohort using income (husband), financial success, ownership of high status items, proportion of years respondent has worked, respondent's education, extent of post-secondary support and implied work years lost through childbearing as independent variables and wanted completed fertility 2 as dependent variable

Cohort	N	Coefficients			
		Income (husband)	Proportion years worked	Respondent's education	Ownership of high status items
1	98	-.07	-.28*	-.09	-.10
2	70	.02	-.13	.10	-.20
3	115	.08	-.20	.08	-.21*
4	119	.34*	-.17*	-.26*	-.22*
5	115	-.20*	-.22*	.08	-.30*
6	156	-.11	.12	-.36*	-.46*
7	148	.11	.01	.05	.09
Total	1045	.04	-.17*	-.14*	-.10*

Table 5.18 Continued

Cohort	Coefficients				
	Work years lost	Post-secondary support	Financial success	R^2	SEE
1	-.14	-.33*	.26*	.25	1.86
2	-.24	-.25	-.46*	.40	1.62
3	-.04	-.16	-.25*	.13	1.64
4	-.00	-.20*	-.21*	.38	1.22
5	.04	-.00	.07	.16	1.33
6	.05	.02	.06	.31	1.02
7	.40*	.06	.02	.21	.91
Total	.10*	-.14*	-.03*	.16	1.44

2. Even the patterns of influence within cohorts differ only slightly from those observed in Table 5.17. For example, proportion of years worked by respondent does not, in this case, have a statistically significant influence in cohort 3 while financial success emerges as important in cohorts 2 and 3 but not overall and in cohort 5, income is significant with a negative effect. A slightly greater amount of the variance in wanted completed fertility 2 is explained by economic variables than was explained in expected family size of wanted completed fertility 1.

The effect in the total sample of the addition of cohort is to diminish the influence of economic variables, as is apparent in Table 5.19. The patterns for Protestants and Catholics resemble those found for the other two dependent variables. For non-Catholic non-Protestants, as shown in Table 5.22, cohort exceeds all economic variables in magnitude of effect on two of the three dependent variables and closely follows proportion of years worked for the third variable. Income, as for Protestants with cohort added to the equation, emerges as an important exploratory variable for those respondents in the other religion category.

The results of the multiple regression analysis appear to sharply underline the already established support for the capacity of some economic variables to explain fertility. Without classifying the sample for religion, support is found for the exploratory potential of years spent in the labour force, education, preference for consumer goods and implied work years lost, for all three dependent variables. This is consistent with the earlier MCA findings that preference for consumer durables and opportunity costs have a significant impact on ultimate

Table 5.19 Standardized regression coefficients using respondent's cohort, income (husband), financial success, ownership of high status items, proportion of years respondent has worked, respondent's education, extent of post-secondary support and implied work years lost through childbearing as independent variables and expected family size, wanted completed fertility 1 and wanted completed fertility 2 as dependent variable

Total	Coefficients			
	Cohort	Income(husband)	Financial success	Ownership of high status items
Expected family size	-.20*	.05	-.02	-.16*
Wanted completed fertility 1	-.19*	.04	-.04	-.16*
Wanted completed fertility 2	-.18*	.05	-.03	-.15*

Table 5.19 Continued

Total	Coefficients					
	Proportion of years worked	Respondent's education	Post-secondary support	Work years lost	R^2	SEE
Expected family size	-.15*	-.10*	-.13*	.04	.15	1.42
Wanted completed fertility 1	-.14*	-.09*	-.14*	.06	.14	1.38
Wanted completed fertility 2	-.13*	-.11*	-.13*	.05	.14	1.42

Table 5.20 Standardized coefficients using respondent's cohort, income (husband), financial success, ownership of high status items, proportion of years respondent has worked, respondent's education, extent of post-secondary support and implied work years lost through child-bearing as independent variables and expected family size, wanted completed fertility 1 and wanted completed fertility 2 as dependent variables

Protestants	Coefficients			
	Cohort	Income (husband)	Financial success	Ownership of high status items
Expected family size	-.24*	.16*	.01	-.27*
Wanted completed fertility 1	-.23*	.14*	-.01	-.27*
Wanted completed fertility 2	-.23*	.15*	-.03	-.27*

Table 5.20 Continued

	Coefficients					
	Proportion of years worked	Respondent's education	Post-secondary support	Work years lost	R^2	SEE
Expected family size	-.03	-.25*	-.12*	-.08	.23	1.20
Wanted completed fertility 1	-.03	-.24*	-.13*	-.07	.23	1.16
Wanted completed fertility 2	-.01	-.24*	-.12*	-.08	.22	1.18

Table 5.21 Standardized regression coefficients and standard errors using respondent's cohort, income (husband), financial success, ownership of high status items, proportion of years respondent has worked, respondent's education, extent of post-secondary support and implied work years lost through childbearing as independent variables and expected family size, wanted completed fertility 1 and wanted completed fertility 2 as dependent variables

Catholics	Coefficients			
	Cohort	Income (husband)	Financial success	Ownership of status items
Expected family size	-.14*	-.10	-.02	-.10
Wanted completed fertility 1	-.14*	-.10	-.03	-.07
Wanted completed fertility 2	-.13*	-.10	-.02	-.09

Table 5.21 Continued

	Coefficients					
	Proportion of years worked	Respondent's education	Post-secondary support	Work years lost	R^2	SEE
Expected family size	-.21*	.09	-.13*	-.03	.14	1.54
Wanted completed fertility 1	-.19*	.11	-.15*	-.01	.13	1.50
Wanted completed fertility 2	-.21*	.09	-.13*	-.03	.14	1.54

Table 5.22 Standardized regression coefficients and standard errors using respondent's cohort, income (husband), financial success, ownership of high status items, proportion of years respondent has worked, respondent's education, extent of post-secondary support and implied work years lost through childbearing as independent variables and expected family size, wanted completed fertility 1 and wanted completed fertility 2 as dependent variable

Others	Coefficients			
	Cohort	Income (husband)	Financial success	Ownership of status items
Expected family size	-.33*	.19*	-.15	-.12
Wanted completed fertility 1	-.34*	.19*	-.17	-.15
Wanted completed fertility 2	-.27*	.24*	-.20	-.05

Table 5.22 Continued

	Coefficients					
	Proportion of years worked	Respondent's education	Post-secondary support	Work years lost	R^2	SEE
Expected family size	-.31*	-.10	-.09	.12	.29	1.62
Wanted completed fertility 1	-.29*	-.09	-.09	.13	.27	1.60
Wanted completed fertility 2	-.28*	-.14	-.12	.14	.27	1.64

wanted fertility.

Although patterns by cohort are difficult to ascertain given inconsistencies and tendencies to reach statistical significance in few cohorts, some generalizations seem to emerge from the regression analyses. First, for all three dependent variables, the patterns by cohort, although not completely consistent, seem to suggest that relative preference for consumer durables is a more important determinant of fertility in younger cohorts than in older cohorts. The data indicate that with the exception of cohort 7, a fairly clear tendency for the effect of preference for consumer goods on fertility to increase with cohort recency is apparent. It could be argued that the youngest cohort analyzed may be too young to have developed a well-defined preference for consumer durables or have the time or resources to own or use any of the four status items on which this measure is based. Education, similarly, had its greatest impact on younger (but not youngest) cohorts. Second, it would appear that one of the proxy measures of economic utilities, proportion of years respondent has spent in the labour force, is a more important determinant of fertility among older cohorts than younger. The findings for implied work years lost are so inconsistent by cohort as to make any generalization impossible.

The R^2 findings, however, do not lend credence to any generalizations about the capacity of the economic utilities model to explain fertility differentially by cohort. If support exists for the hypothesis under consideration, it is mixed and inconclusive. The evidence seems to suggest only a clear difference in relative import of consumer durables for fertility by cohort and some difference in the impact of opportunity costs across cohorts.

One striking finding in the regression analyses, compared with the earlier MCA findings, is that husband's income (translated from relative income position in earlier analyses) has little effect in the regression analyses, except once cohort is added for Protestants. It will be remembered that relative income position of husband was found to be an important explanatory variable. Even in the case of Protestants, once cohort is added to the analysis, income tails behind ownership, education and cohort in influencing fertility. It also seems surprising in light of previously reported findings, that subjective feelings of financial success make so little difference in fertility expectations.

The regression analyses done separately for categories of religion add new dimensions to the economic utilities explanation of fertility behaviour. Although the explanatory power of cohort is consistently underlined, irrespective of religion, its position in explaining Protestant fertility is behind the fairly powerful explanatory variables, preferences for consumer durables and education. That cohort is outranked in the regressions for Catholics by years spent in labour force and that ownership and education do not reach statistical significance in this case provides a striking comparison with Protestants.

The findings in this chapter lead to the general conclusion that although the economic utilities model, as operationalized here, is more successful than the structural approach in explaining wanted family size, it is somewhat less than entirely adequate and often leads to unclear support for the explanatory power of the model. Little, and highly mixed, support is found for the hypothesis that younger cohorts are differentially affected in their fertility outcomes by

economic concerns than are older cohorts. What evidence emerges tends to suggest that preferences for consumer durables tends to be increasingly strongly related (inversely) to preferences for children as cohort increases. Some support is also found for the differential impact of economic concerns on fertility among Protestants and Catholics.

CHAPTER 6

THE SOCIOLOGICAL UTILITIES MODEL AND INTERCOHORT DIFFERENTIALS IN EXPECTED FAMILY SIZE AND WANTED FERTILITY

6.1 The Sociological Utilities Model of Fertility

Although the economic utilities model of fertility has been hailed as at least a first attempt at a comprehensive theory of fertility, if not an integrated theory, it is not without serious limitations. Most of the criticism of the model ultimately dwells, in one way or another, on its neglect of the social context of fertility. This concern led to a call by Easterlin, at a fairly early stage in the development of the utilities model, for the development of a theoretical framework which incorporates social considerations into the economic approach (Easterlin, 1969:150). Quite recently, two ambitious attempts have been made to do just this. Turchi (1975) undertakes to "present in rigorous fashion an integrated socioeconomic theory of fertility that allows noneconomic determinants to interact in a plausible way with economic determinants" (Turchi, 1975:2). Scanzoni (1975) focusses on the linkage between role specializations required by participation in the economy and family size in an attempt to test the hypothesis that greater commitment to opportunity participation is related to reduced family size.

The genius of both of these approaches rests on the examination of the effect of social and economic factors on fertility with consideration of the essential intervening links. Viewed in this way, these approaches may be seen as extensions of both the traditional structural approach to fertility described in Chapter 4 and the newer economic utilities approach described in Chapter 5. Essentially, both Turchi and Scanzoni view fertility within the context of constrained choice. Choice in both approaches is the crucial theoretical concern, choice constrained by resource allocation defined both economically and socially.

The new approach which could be called a sociological utilities or socioeconomic utilities model is inextricably involved with what has been called the advent of the "new fertility regime", essentially an outgrowth of the change from "fate" to "control orientation" referenced in the first chapter of this thesis. The "new fertility regime", a concept devised by Bumpass (1973), rests on what is seen as a new gestalt surrounding fertility decisions. As a result of the rapid diffusion of the pill, Bumpass claims, the fundamental rules under which fertility decisions are made have been altered. Possibilities of an effectively controlled childbearing define the "new fertility regime". Essentially, a socioeconomic theory of fertility depends on the emergence of the new regime in order that the criterion of constrained choice is met.

The importance of social factors in fertility differentials has long been recognized. Lorimer's classic remark, quoted at the beginning of Chapter 5 to underline the relevance of economic factors

to fertility does not in any way deemphasize the significance of social factors. "Social and cultural adjustments to actual conditions of living tend to induce widespread restriction of fertility when such restriction is recognized, or assumed, to be favorable to the achievement of accepted goals." (Lorimer, 1954:248-249) The entire socio-demographic tradition gives credence to the import of social variables in fertility differentials. Quite obviously the economic utilities model in attempting to explain fertility by focussing almost exclusively on economic variables must be seen as at least partially inadequate. The contribution of the newly proposed socioeconomic utilities model is the transference of fertility analysis out of the realm of aggregate social and economic differentials and into the realm of a micro-decision-making framework where social variables, and in particular self-defined role preferences, are considered in the utilities context of choice.

The birth of the socioeconomic utilities model of fertility in fact is preceded by a lengthy period of gestation. The beginnings of the model may be traced to the substantial body of literature on the relationship of female employment to fertility. As early as the first GAFS in the United States, an inverse relationship is found between female employment and fertility (Freedman _et al_., 1959). This finding is substantiated in the 1960 GAFS where it is discovered further that reasons for employment among working mothers tend to be related to fertility (Whelpton, _et al_., 1966:107). In many societies in addition to the U.S., a similar inverse relationship is also found (Haas, 1972). In a number of developing countries, where having children enhances productive activities, a direct relationship between female employment and fertility emerges (Stycos and Weller, 1967).

Explaining the occurrence of an inverse relationship in modern urban societies proves more difficult than describing it, as always. Some of the multiple problems encountered in such an explanation are examined by McDaniel (1970) in a study of female employment and fertility in Japan. On one hand, it has been argued (Blake, 1965) that desire to work results in a limitation on family size. In this sense then, family size is determined by female employment. On the other hand, Sweet (1970) argues that an equally compelling case can be made for the reverse sequence, that women who have smaller families have more time to work. Other authors explain the relationship of female employment and fertility by reference to other variables. Ridley (1968), for example, takes the view that education of women is a more powerful indicator of fertility than is female employment per se. Oppenheimer (1970) suggests that labour market demand for women accounts for increasing female labour force participation and a consequent redefinition of familial roles.

A significant goal of the socioeconomic utilities model is resolution of these ambiguities and expansion of the perspectives to comprise other aspects of fertility behaviour by providing a coherent theoretical framework in which to analyze fertility. The utility model focusses on the conscious decisions of couples to have children, thereby presupposing the existence of the "new fertility regime". It is assumed by advocates of the socioeconomic utilities approach that this decision-making process is contingent on allocation of scarce resources, both economic and social, among a number of activities, of which childbearing is only one. The approach requires only determination of

price of children or potential income (Turchi, 1975:57). The production function for children and the demand function explicitly allow for the impact of social norms on the options perceived by the couple. Furthermore, Turchi adapts the orthodox economic model of consumer behaviour to account for two features which clearly set fertility decisions apart from other consumer decisions: the irreversibility of the family size decision and the necessity of a major commitment of resources early in the life cycle. The former problem was cited in Section 5.1 as a basic impediment in rendering fertility decisions analogous to other consumer decisions.

The remainder of Turchi's path-breaking study is devoted to empirical analysis of the model he constructs. His empirical sources for time costs of children are two surveys conducted in 1965 and 1970 by the Survey Research Center at the University of Michigan. The 1965 survey is the Productive Americans Survey and the 1970 survey is the Family Economics Survey. Both surveys have as their stated purpose "'to explain and interpret differences within this country in the extent to which families work, plan ahead, accept change, avoid risk, and keep a high and rising, but realizable, set of goals'." (Turchi, 1976:76 quoting from Morgan et al., 1966:2). For money expenditures on children, Turchi (1975:119) relies on the U.S. Bureau of Labor Statistics' Survey of Consumer Expenditure. He compares the estimates for his theoretical parameters derived from this source with other empirical attempts to measure child cost, concluding that estimates derived from other sources although superior in some ways methodologically provide expenditure estimates which are rather high

preferences within the activities available. All else becomes the subject of empirical investigation.

Turchi (1975) begins his task of presenting an integrated socioeconomic theory of fertility with solid grounding in the economic utilities model. Essentially, he views the fertility decision as a consumption activity but one which cannot be successfully understood without reference to the cultural and institutional context in which the decision is made. According to Turchi's scheme, decisions about family size are based on experience (background variables), personal preferences, expectations of resources available and predictions about costs of children (Turchi, 1975:5-6). In Turchi's theory social factors impinge on the fertility decision in two ways: (1) preferences for children relative to other consumer activities vary systematically with membership in social groups; and (2) norms governing resource allocations to children are strongly differentiated by socioeconomic strata. Decisions regarding desired (or optimal) family size are translated into actual fertility through fertility regulating activity, another dimension of the family size decision.

Following the development of formalized equations for determining the production functions of children, opportunity costs of children, market budget constraints and optimum number of children, Turchi (1975: 57) develops a demand function for children. In this function, demand depends on the couple's perceived price of children and on potential income, both of which are dependent on noneconomic factors. According to Turchi, these noneconomic or social factors affect the demand for children in two ways: (1) "by altering the quantity of children demanded" for any given level of perceived price and potential income:" and (2)

"by altering the response of different couples" to changes in perceived price of children or potential income (Turchi, 1975:57). The production function for children and the demand function explicitly allow for the impact of social norms on the options perceived by the couple. Furthermore, Turchi adapts the orthodox economic model of consumer behaviour to account for two features which clearly set fertility decisions apart from other consumer decisions: the irreversibility of the family size decision and the necessity of a major commitment of resources early in the life cycle. The former problem was cited in Section 5.1 as a basic impediment in rendering fertility decisions analogous to other consumer decisions.

The remainder of Turchi's path-breaking study is devoted to empirical analysis of the model he constructs. His empirical sources for time costs of children are two surveys conducted in 1965 and 1970 by the Survey Research Center at the University of Michigan. The 1965 survey is the Productive Americans Survey and the 1970 survey is the Family Economics Survey. Both surveys have as their stated purpose "'to explain and interpret differences within this country in the extent to which families work, plan ahead, accept change, avoid risk, and keep a high and rising, but realizable, set of goals'." (Turchi, 1975:76 quoting from Morgan et al., 1966:2). For money expenditures on children, Turchi (1975:119) relies on the U.S. Bureau of Labor Statistics' Survey of Consumer Expenditure. He compares the estimates for his theoretical parameters derived from this source with other empirical attempts to measure child cost, concluding that estimates derived from other sources although superior in some ways methodologically provide expenditure estimates which are rather high. (Turchi, 1975:159-160).

Interestingly, in light of the present analysis, Turchi (1975:163) estimates expectations of opportunity costs (both time and money costs) and long run potential income by reference to the experiences of older cohorts in similar occupational and educational groups. To measure preferences for children and preferences for other consumer durables, Turchi (1975:180) complains that he is forced to rely on sociodemographic proxies because inappropriate data are collected in fertility surveys. Conclusions on demand for children are hampered by reliance on these proxies for individual responses and consequent problems of multicollinearity. Turchi (1975:214-215) concludes by emphasizing the need for collection of appropriate survey data to thoroughly test his model. He suggests, among other things, that data be collected on preference for parenting relative to other preferences, on relative feelings about alternative family sizes and on husband-wife interaction in decision-making.

Scanzoni's (1975) approach differs from that of Turchi in his reliance on economic utilities model solely as a framework for the development of a sociological utilities model and in the use of in-depth interviews on preferences for social roles and social psychological persuasions. Specifically, Scanzoni (1975:7) focusses on sex or gender role norms and marital roles within a utility framework. In his application of the utilities framework to a sociological perspective, Scanzoni, in effect, does what Turchi calls for at the conclusion of his work.

Scanzoni (1975:7) cites changes in sex role norms as a critical variable in fertility research, a variable which may be

responsible, in part, for declining national fertility rates in the 1970's. Viewing sex roles and fertility in implicit utility terms has a long history in demography. As early as 1960, Hoffman and Wyatt suggested that the traditional female role in the U.S. is inextricably bound together with childbearing and childrearing. Davis (1967) points toward competition between educational and occupational opportunities and family interests. Blake (1965) and Ridley (1968) underline the utility theme in female roles and fertility by suggesting, in Blake's case, that "offspring . . . are the instrumentalities for achieving virtually prescribed social 'statuses', and almost the exclusive avenues for feminine creativity and achievement." Ridley (1965), in a similar vein, emphasizes the competition between non-familial and familial roles for women and ties this to the procreative powers of the family. Goldberg (1960) and Westoff and Potvin (1967) point out that higher fertility among Catholics than Protestants might be attributable to a more traditional female sex role held by Catholics. Hoffmeyer (1962) and Kammeyer (1966) examine the female role and motherhood using an implicit utility model. More recently, Holstrom (1972) in a study of the two career family found that women's orientations were an important factor in influencing childbearing. Clarkson et al., (1970) and Germaine (1975) similarly find that the degree to which traditional sex roles are held by women is an important determinant of family size.

Using data from 3,096 interviews conducted in ten metropolitan areas in the U.S., Scanzoni (1975:13-14) sets out to develop a series of dimensions of sex role orientation including self-defined roles,

norms and social psychological dimensions of self-concept. His sample is comprised of 25 percent blacks and includes equal numbers of men and women. In 399 households, both husband and wife were interviewed (Scanzoni, 1975:14). The independent variables under consideration include two dimensions of the social position of wife (traditional wife role and wife self-actualization), three dimensions of the social position of husband (problematic husband alterations, institutionalized equality and traditional husband role), two dimensions of the social position of mother (religious legitimation of mother role and traditional mother role) and two dimensions of self-concept (instrumental self-concept and expressive self-concept). Initially, Scanzoni (1975:19-62) combines these dimensions with five background variables (race, sex, religion, education and age) to assess the structure of sex roles.

Once the dimensions of sex roles and self-concept have been established, Scanzoni (1975:63-103) attempts to test relationships between these dimensions and orientations toward childbearing. The central dependent variable in Scanzoni's analysis is birth intentions, the same concept as is used in the 1970 U.S. National Fertility Survey. Using such variables as wife's employment, education, income of family and proportion of life that wife has worked in conjunction with the previously developed dimensions of sex role orientation and self-concept, Scanzoni seeks to test the possible paths of influence on birth intentions. The model he develops (Scanzoni, 1975:72) proves especially useful in explaining fertility intentions of younger women but less useful for older women and men. A striking finding is that "within the context of full employment and especially higher education,

sex role norms are generally the most powerful predictors of lowered (birth) intentions" (Scanzoni, 1975:98). Among "never-married university students, sex role norms are better indicators of lowered birth intentions than is religion, year in school, or status background" (Scanzoni, 1975:98).

Scanzoni (1975:98-101) concludes the empirical analysis with a solid discussion of the theoretical implications of his work. Sex role dimensions, as he has defined them, represent preferences for particular kinds of rewards within the distributive system of rewards or interest defined by sex roles. By implication, they also involve willingness to forego alternative rewards. Individualism, as defined by Scanzoni (1975:99) essentially equates with sex role egalitarianism or modernity. This is inversely related to familialism and represents a preference for non-familial rewards such as full-time employment, education and later age at marriage.

In terms of innovation, Scanzoni's work clearly represents an important contribution. Viewing social and social psychological preferences in terms of a utility framework appears to have substantial explanatory possibility in understanding modern fertility behaviour. It is, however, not without shortcomings. Since the work is so new many of the potential difficulties in the approach have not yet appeared in print. Reliance will be placed, therefore, on this author's perception of possible limitations. First, the classical question of the ways norms and behaviour are related arises. There would appear to be a "feedback loop" whereby norms affect behaviour (and generally precede it) but certain behaviours, particularly those effected early

in life, tend to determine or at least modify normative stances. Second, as in any utilities approach, the question of how aware individuals are of the trade-offs made seems an important component of the model. It might be, as Scanzoni (1975:100) suggests that the more conscious individuals are of alternative rewards or costs, the more effective they are likely to be in attaining desired utilities. A third critical issue is whether familistic and non-familistic rewards are, of necessity, trade-offs. Through sex role changes, including male sex role changes, it could be true increasingly that modern women may not reduce family size beyond a basic minimum but desire increased non-familial rewards as well. In part, this question is related to the familiar "telescoping" problem which plagues all recent studies of fertility differentials.

In spite of these difficulties, the sociological utilities model appears to possess the capacity to explain differential fertility, possibly in ways superior to that of the structural approach and perhaps also superior to the economic utilities model. The purpose of this chapter is to examine the capacity of this model, in adapted form, to explain intercohort differentials in expected family size and wanted completed fertility. The adaptation of the model and operationalization of concepts is the topic under consideration in the next section. The specific hypothesis to be tested in the first empirical sections of this chapter is the following: Younger cohorts reveal role preferences and values which are extra-familial and individualistic and therefore competitive with childbearing to a greater degree than older cohorts. Following consideration of this hypothesis within the

framework of a sociological utilities model, a comparison will be attempted between the explanatory potential of the economic model and that of the sociological model. The following hypothesis will be tested in that section: These extra-familial and individualistic role preferences and values are more important determinants of expected and wanted completed family size than economic considerations. Also included in this latter analysis is a comparative analysis of the relative import of those structural (background) variables found to be of explanatory importance in Chapter 4.

6.2 Operationalization and Adaptation of the Sociological Utilities Model

The sociological utilities model under analysis here more closely resembles the model of Scanzoni than that of Turchi. This is largely true because the GAFS questionnaire, although far less comprehensive than that used by Scanzoni, includes a series of questions on role orientations, self-concept and attitudes. Some of these questions, in fact, are identical to those used by Scanzoni. Since testing of a sociological utilities model was never a central purpose of the Growth of Alberta Families Study, it is not surprising that the questionnaire contains relatively few questions of relevance. Rather, it could be said to be a tribute to the foresight of the co-directors that the number of questions that did appear are sufficiently numerous to enable the development of role and attitude indices.

In operationalizing the sociological utilities model, responses to questions concerning role preferences, self-concept and attitudes are combined to form composite indices. Details of computation of these

indices appear in Appendix B. The index called Traditional Female Role is developed on the basis of several personal questions such as preferred work status, childbearing and sterilization decision-making and on a series of ten abstract questions on roles of women which reflect role preferences on the respondent. This index, as all of the other six, requires traditional responses to more than half of those questions comprising the index in order that the respondent be scored high on Traditional Female Role. The same criterion is applied to categorize a respondent as low on this index. Contradictory or medium scores are required to categorize the respondent in the middle range of this variable.

Two series of questions are used in the development of indices pertinent to maternal role. The first, called Traditional Mother Role Orientation, relies on three personal questions concerning preferred working status, desire for children and personal attitudes toward voluntarily childless couples as well as on a series of eight non-personal questions concerning working mothers, division of labour in marriage, pregnancy leaves from work, child care centres and happiness of families with children. These latter questions are thought to reflect norms surrounding the traditional mother role as perceived by the respondent. Respondents are trichotomized as before.

The second series of questions is selected to obtain a measure of Traditional Childbearing Motivation. This is, of course, more difficult to infer from attitude questions than are self-defined role orientations. It could be argued, however, that childbearing motivation is conceptually different from mother role orientation and

both are theoretically important in examining sociological utilities. One personal question is used in the development of this index: whether or not the respondent expects to live with her children in old age. In addition, four normative perception questions are used: who should make childbearing decisions, whether women ought to stay at home with children and whether families with large numbers of children are happiest. As was done for the other indices, responses here are trichotomized into high, medium and low.

A fourth index is developed to measure egalitarianism within marriage. Five questions were used to develop this index, Egalitarian Attitudes. One personal question asking whether any discussion ensued at the time of the marriage with spouse as to the number of children desired is included. Four normative questions are also included here: who should make childbearing decisions, marital role egalitarianism and sexual egalitarianism. Respondents again are trichotomized on the basis of these questions according to the criteria outlined above.

The above indices are closely related, although not identical, to those developed by Scanzoni in both operationalization and intent. They essentially attempt to reflect role preferences and motivations in order to measure and assess trade-offs. In addition to these measures, an attempt is made in the operationalization of the sociological utilities model to extend Scanzoni's pioneering efforts to include variables on which he did not collect information. For this purpose, three additional indices are developed: two concerning

attitudes towards large families and population growth and one which measures traditional sex ratio preferences in children. All three of these variables have been shown in many of the world's fertility studies to have relevance to fertility behaviour.

The index called Concern with Population Growth is based on two attitude questions about large families and seriousness of the world population problem. Respondents are categorized into high, medium and low concern using the criterion outlined earlier. A second index, Tolerance for Large Families, is also based on two attitude questions, one on large families and one on how many children would be too many in the average Canadian family. Once again, respondents are trichotomized on the basis of responses to these questions.

The last index to be developed, Traditional Sex Preferences in Children, is based on two questions with a third question providing a lead-in to one of these. The two questions employed here ask the respondent's preferred sex ratio at the time of her marriage and her ideal preferred sex ratio at survey time. On the basis of responses to these two questions two sex ratios were computed for each respondent. Sex ratios higher than 1 are deemed traditional sex ratio preferences, lower than 1 low on traditional scores, and 1 or contradictory, at a medium or non-preference level. The intent in developing this index is to have a measure of another dimension of traditional as opposed to less traditional preferences. Since this measure clearly relates in a direct way to the question of birth expectations, it is seen as a useful measure.

The last variable to be included in this chapter's analysis is respondent's education. This variable, as in Chapter 5, is largely a "proxy" measure for non-familial activity as well as opportunity costs incurred by childbearing.

The dependent variables to be used in the present analysis, as in Chapter 5, comprise a subset of those used in the background analysis undertaken in Chapter 4. Expected family size, wanted completed fertility 1 and wanted completed fertility 2 are the variables under consideration. The justification for inclusion of only these variables is the same as it was in Chapter 5. The concern here is choice and preference so that ideal and desired family size are not directly relevant.

The methods of analysis to be used in this chapter are the same as those used in the previous two chapters. First, adjustments are made for differences among cohorts in the three dependent variables by means of Multiple Classification Analysis (MCA). This is done first with each variable alone with cohort and then for all variables acting together. The second approach is multiple regression analysis applied separately to each cohort. Following this, multiple regression analysis is undertaken for each dependent variable with cohort added to other variables in the model. Lastly, at the end of this chapter, discriminant analysis of all variables studied so far is used to determine which variables contribute most to explanatory power. This analysis is done for all three dependent variables with background, economic and sociological variables acting together and with only the

latter two sets acting together.

6.3 Sociological Variables Considered Separately

As was done in the previous two chapters, this section presents the results of the MCA for the three independent variables for each cohort with each of the operationalized variables in the sociological utilities model considered separately. The MCA is supported by summary tables of analysis of variance presented in Appendix E, Tables E.1 to E.54. As before, the analysis of separate effects has the secondary purpose of testing for interactions among predictor variables prior to submitting all sociological variables to the MCA at the same time.

Prior to undertaking analysis of variance, it is necessary to test intercorrelation among predictor variables. Table 6.1 reveals that only in one instance does intercorrelation reach an unacceptably high level. A correlation coefficient of .68 between tolerance of large families and concern with population growth suggests the need for elimination of one of these variables since they appear to measure similar concerns. It was decided to eliminate concern with population growth, a more generic and less personal index, from further analyses. The tolerably low levels of intercorrelation shown in Table 6.1 among the remaining sociological variables leads to the conclusion that these variables are appropriate for inclusion in analysis of variance.

In Table 6.2, the association between each of the operationalized sociological variables and each dependent variable is shown. As was found at this stage in the analysis in both previous chapters, cohort at the zero-order level is the most important explanatory

Table 6.1 Correlation coefficients among sociological variables

	Correlations							
	1	2	3	4	5	6	7	8
1. Cohort	1.0							
2. Mother role orientation	- .24	1.0						
3. Traditional female role	- .25	.41	1.0					
4. Tolerance of large families	- .17	.38	.20	1.0				
5. Concern with population	.13	- .32	.16	- .68	1.0			
6. Egalitarian attitudes	.19	- .34	.43	- .21	.14	1.0		
7. Traditional childbearing orientation	- .09	.32	- .28	.42	- .38	- .31	1.0	
8. Traditional sex preferences in children	- .08	- .03	- .00	.03	- .03	- .03	.06	1.0

Table 6.2 Association (Eta) between sociological variables and expected family size, wanted completed fertility 1 and wanted completed fertility 2

Independent Variables	Eta's*		
	Expected family size	Wanted completed fertility 1	Wanted completed fertility 2
1. Cohort	.26	.24	.23
2. Mother role orientation	.13	.13	.09
3. Traditional female role	.12	.13	.07
4. Tolerance of large families	.22	.23	.19
5. Egalitarian attitudes	.14	.15	.12
6. Traditional childbearing orientation	.06	.07	.04
7. Traditional sex preferences in children	.08	.08	.09

*Eta is the square root of the ratio of the sum of squares based on the unadjusted deviation for a predictor variable to the total sum of squares. It is the correlation ratio and indicates the capacity of the predictor variable to explain variation in the dependent variable.

variable for all three measures of wanted family size. For all three dependent variables, tolerance of large families closely follows cohort in explanatory potential, followed at some distance by egalitarian attitudes, mother role orientation and traditional female role orientation. Traditional childbearing motivation and traditional sex ratio preferences in children are least important for expected family size and wanted completed fertility 1. For wanted completed fertility 2, traditional childbearing motivation is also least important but traditional sex ratio preferences in children is at par with mother role orientation in third rank importance.

For each measure of wanted family size, Tables 6.3 to 6.8 show variation in the measure across each sociological variable and across cohorts as well as the results of two-way classifications of cohort with each sociological variable in turn. Unadjusted deviations by cohort and deviations adjusted separately for each of the sociological variables under consideration are presented in Tables 6.4, 6.6 and 6.8. This MCA is supported by analysis of variance tables appearing in Appendix E.

From Table 6.3, it is apparent that the variables accounting for most of the variance in expected family size are the same as those reported in Table 6.2: cohort, tolerance of large families and egalitarian attitudes. The ranges for these variables are 1.57, .89 and .68 respectively. After controlling for each sociological variable in turn, the amount of variance explained by cohort remains significant at the .001 level as shown in Tables E.1 to E.6. Tolerance for large families and egalitarian attitudes remains statistically significant

Table 6.3 Variation in expected family size by cohort, mother role orientation, traditional female role, tolerance of large families, egalitarian attitudes, traditional childbearing motivation and traditional sex preferences in children. (Grand mean = 2.71)

Cohort		N	Mother role		N	Female role		N	Tolerance of large families		N
c.1	3.10	85	Low	2.43	329	Low	2.57	53	Low	2.46	559
c.2	4.00	57	Medium	2.81	439	Medium	2.99	269	Medium	2.75	201
c.3	2.84	98	High	2.95	203	High	2.97	649	High	3.35	211
c.4	2.83	101									
c.5	2.79	108									
c.6	2.46	142									
c.7	2.43	146									
Range	1.57			.52			.42			.89	

Egalitarian attitudes		N	Childbearing motivation		N	Sex preferences in children		N
Low	3.26	134	Low	2.67	835	Low	2.71	118
Medium	2.71	272	Medium	2.94	95	Medium	2.65	712
High	2.58	565	High	2.98	41	High	3.03	140
Range	.68			.31			.38	

controlling for mother role orientation, cohort 6 evidences an expected family size at virtually the same low level as cohort 7 but cohort 2 still has the highest expectations. After adjustment for each sociological variable, cohort 1 retains second place for large expected family size. Cohorts 3, 4 and 5 remain very close to the overall mean expected family size after controlling for each sociological variable.

Controlling for each of the six sociological variables separately has the effect of decreasing variability in expected family size across cohorts. As was true in previous separate analyses, no clear pattern by cohort is apparent after adjustment is made for each sociological variable. Beta weights appearing in Table 6.4 reveal that when each sociological variable is acting with cohort, cohort exhibits the greater influence on expected family size. These beta weights also support the earlier finding that cohort, tolerance of large families, egalitarian attitudes and traditional mother role orientation are the important variables in explaining variance in expected family size. Traditional female role orientation, a variable of relative importance in Table 6.2 loses some of its impact upon adjustment.

Unadjusted variation in wanted completed fertility 1 by cohort and the six sociological variables taken separately is presented in Table 6.5. Variables accounting for most of the variance in wanted completed fertility 1 include cohort, tolerance of large families and egalitarian attitudes once more. Ranges for these variables are 1.39, .88 and .69 respectively. After controlling for each of the sociological variables in turn, the amount of variance explained by cohort remains

at the .001 level after controlling for cohort, as evidenced by Tables E.3 and E.4.

Also shown in Table 6.3 is the pattern of expected family size across cohorts and sociological variables. As has been found in earlier analyses, a clear tendency for family size expectations to decline with cohort is shown with cohort 2 once again revealing a higher expected family size than cohort 1. A direct relationship is apparent between expected family size and three of the sociological variables: mother role orientation, tolerance of large families and traditional childbearing motivation. For traditional female role orientation, medium and high categories are virtually indistinguishable with both considerably higher than for low traditional female role orientation. The relationship between expected family size and egalitarian attitudes is clearly inverse with fairly sizeable differences in expectations by levels of egalitarian attitudes. In terms of traditional sex ratio preferences in children, those with traditional preferences have highest fertility expectations and those with medium preferences have lowest.

Table 6.4 shows unadjusted and adjusted deviations from the grand mean for expected family size for each of the sociological variables acting together with cohort. From this table it is clear that the general pattern is for expected family size to decline with cohort, as was found in previous analyses of both background and economic variables. After controlling for each sociological variable in turn, except for traditional mother role orientation, cohort 2 has the highest family size expectations and cohort 7 the smallest. After

Table 6.4 Expected family size by cohort and sociological variables each in turn. Unadjusted and adjusted deviations by cohort

Cohort	Deviations from Grand Mean (2.79)					
	Mother Role		Female Role		Tolerance of Large Families	
	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted
c.1	.31	.24	.31	.25	.31	.16
c.2	1.21	1.14	1.21	1.18	1.21	1.17
c.3	.05	.05	.05	.04	.05	.06
c.4	.04	.03	.04	.04	.04	.04
c.5	-.04	-.06	-.04	-.04	-.04	-.03
c.6	-.33	-.31	-.33	-.30	-.33	-.25
c.7	-.36	-.30	-.36	-.33	-.36	-.36
Range	1.57	1.45	1.57	1.51	1.57	1.53
Beta	Cohort Mother role	.24 .11	Cohort Female role	.25 .07	Cohort Tolerance	.24 .18
	Egalitarian Attitudes		Childbearing Motivation		Sex Preferences in Children	
	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted
c.1	.31	.24	.31	.28	.31	.31
c.2	1.21	1.14	1.21	1.18	1.21	1.20
c.3	.05	.06	.05	.06	.05	.04
c.4	.04	.05	.04	.06	.04	.04
c.5	-.04	-.05	-.04	-.04	-.04	-.04
c.6	-.33	-.30	-.33	-.32	-.33	-.33
c.7	-.36	-.33	-.36	-.37	-.36	-.35
Range	1.57	1.47	1.57	1.55	1.57	1.55
Beta	Cohort Egal. attitudes	.24 .11	Cohort Childbearing	.26 .07	Cohort Sex preferences	.26 .04

significant at .001 (Tables E.19 to E.24). Tolerance for large families remains significant in explaining variance in wanted completed fertility 1 at .001 after cohort is controlled (Table E.21). After controlling for cohort, egalitarian attitudes remain significant at .003, as shown in Table E.22.

Variations in wanted completed fertility 1 across cohorts and sociological variables, as shown in Table 6.5, are basically similar to those found for expected family size in Table 6.3. Cohort 2 has the highest wanted completed fertility 1, followed by cohort 1. Although cohort 7, as well as cohort 6, indicates the lowest wanted completed fertility, the decline for this dependent variable from cohort 2 to cohort 7 is not linear as it was for expected family size. As was true for expected family size, in Table 6.3 direct relationships are apparent between wanted completed fertility 1 and mother role orientation, tolerance of large families and traditional childbearing motivation. An inverse relationship occurs once again between egalitarian attitudes and wanted completed fertility 1. Respondents with low rank on traditional female role orientation have lower wanted completed fertility 1 than those with medium or high rank which indicate similar levels of wanted family size. The pattern in sex ratio preferences for wanted completed fertility 1 is the same as for expected family size. Those with preferences for equal numbers of boys and girls, on average, indicate smaller wanted completed fertility 1 than those with relative preferences for either boys or girls. Respondents with high relative preferences for boys have the highest wanted completed fertility 1.

Table 6.5 Variation in wanted completed fertility 1 by cohort, mother role orientation, traditional female role, tolerance of large families, egalitarian attitudes, traditional childbearing motivation and traditional sex preferences in children. (Grand mean = 2.61)

Cohort		N	Mother role		N	Female role		N	Tolerance of large families		N
c.1	3.00	85	Low	2.33	329	Low	2.47	53	Low	2.36	559
c.2	3.78	57	Medium	2.71	439	Medium	2.90	269	Medium	2.64	201
c.3	2.64	98	High	2.85	203	High	2.87	649	High	3.24	211
c.4	2.74	101									
c.5	2.61	108									
c.6	2.39	142									
c.7	2.39	146									
Range	1.39			.52			.43			.88	

Egalitarian attitudes		N	Childbearing motivation		N	Sex preferences in children		N
Low	3.18	134	Low	2.57	835	Low	2.64	118
Medium	2.58	272	Medium	2.85	95	Medium	2.55	712
High	2.49	565	High	2.96	41	High	2.90	140
Range	.69			.39			.26	

Results of MCA for each sociological variable acting together with cohort on wanted completed fertility 1 are shown in Table 6.6. As was true for expected family size in Table 6.4, the general pattern revealed here is for wanted completed fertility 1 to decline with cohort. After controlling for each sociological variable separately, cohort 2 has the highest wanted completed fertility 1 consistently, followed by cohort 1 and either cohort 6 or cohort 7 has the lowest. The middle cohorts indicate levels of wanted completed fertility 1 which are very close to the grand mean, after adjustment is made for each sociological variable.

Variability across cohorts is generally decreased by adjusting for each sociological variable. The one exception is sex ratio preferences in children in which variability remains the same following adjustment. Beta weights appearing in Table 6.6 reveal that each sociological variable when acting together with cohort, has less of an influence on wanted completed fertility 1 than cohort. Findings of Table 6.2 are supported by these beta weights as well. Cohort is followed in importance by tolerance of large families and egalitarian attitudes.

Table 6.7 shows variation across categories of cohort and the sociological variables for wanted completed fertility 2. Those variables accounting for most of the variance in this dependent variable, as revealed by the ranges, include cohort, tolerance of large families and egalitarian attitudes, the same variables found to be important for both of the earlier described dependent variables. Respective ranges for these variables are 1.40, .78 and .58. Appendix

Table 6.6. Wanted completed fertility 1 by cohort and sociological variables each in turn. Unadjusted and adjusted deviations by cohort

Cohort	Deviations from Grand Mean (2.68)					
	Mother Role		Female Role		Tolerance of Large Families	
	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted
c.1	.32	.25	.32	.25	.32	.17
c.2	1.10	1.04	1.10	1.07	1.10	1.07
c.3	-.04	-.03	-.04	-.05	-.04	-.02
c.4	.06	.04	.06	.05	.06	.06
c.5	-.07	-.09	-.07	-.08	-.07	-.06
c.6	-.29	-.27	-.29	-.26	-.29	-.22
c.7	-.29	-.22	-.29	-.26	-.29	-.29
Range	1.39	1.26	1.39	1.33	1.39	1.36
Beta	Cohort	.22	Cohort	.23	Cohort	.22
	Mother role	.11	Female role	.08	Tolerance	.18
	Egalitarian Attitudes		Childbearing Motivation		Sex Preferences in Children	
	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted
c.1	.32	.24	.32	.28	.32	.31
c.2	1.10	1.04	1.10	1.08	1.10	1.10
c.3	-.04	-.03	-.04	-.03	-.04	-.05
c.4	.06	.07	.06	.07	.06	.05
c.5	-.07	-.08	-.07	-.07	-.07	-.07
c.6	-.29	-.27	-.29	-.27	-.29	-.29
c.7	-.29	-.25	-.29	-.29	-.29	-.28
Range	1.39	1.31	1.39	1.37	1.39	1.39
Beta	Cohort	.22	Cohort	.24	Cohort	.24
	Egal. attitudes	.13	Childbearing	.08	Sex preferences	.04

Table 6.7 Variation in wanted completed fertility 2 by cohort, mother role orientation, traditional female role, tolerance of large families, egalitarian attitudes, traditional childbearing motivation and traditional sex preferences in children. (Grand mean = 2.77)

Cohort		N	Mother role		N	Female role		N	Tolerance of large families		N
c.1	3.05	85	Low	2.58	329	Low	2.69	53	Low	2.55	559
c.2	3.86	57	Medium	2.85	439	Medium	2.92	269	Medium	2.79	201
c.3	2.75	98	High	2.92	203	High	2.97	649	High	3.33	211
c.4	2.80	101									
c.5	2.84	108									
c.6	2.54	142									
c.7	2.46	146									
Range	1.40			.34			.28			.78	
Egalitarian attitudes		N	Childbearing motivation		N	Sex preferences in children		N			
Low	3.26	134	Low	2.74	835	Low	2.85	118			
Medium	2.71	272	Medium	2.94	95	Medium	2.69	712			
High	2.68	565	High	2.94	41	High	3.13	140			
Range	.58			.20			.44				

Tables E.37 to E.42 show that, after controlling for each of the six sociological variables in turn, the amount of variance explained by cohort remains significant at .001. Tolerance for large families also remains significant at .001 in explaining variance in wanted completed fertility 1 after cohort is controlled (Table E.39). After controlling for cohort in Table E.40, egalitarian attitudes remain significant at .019.

Variations in wanted completed fertility 2 across cohorts and sociological variables revealed in Table 6.7 differ somewhat from those found for the other two measures of family size preferences. As was true for expected family size and wanted completed fertility 1, direct relationships are found between wanted completed fertility 1, direct relationships are found between wanted completed fertility 1 and mother role orientation and tolerance of large families. With this dependent variable, however, direct relationships are also found for traditional female role orientations and traditional sex ratio preferences in children with a fairly sizeable variation in the latter variables. Traditional childbearing motivation, a variable found to relate directly to the other two dependent variables, shows in this instance identical values in medium and high ranks, but a lower wanted completed fertility 2 in the "low" category. As was true for the other two dependent variables, a moderate inverse relationship between wanted completed fertility 2 and egalitarian attitudes is apparent. The pattern across cohorts for this variable differs considerably from the earlier patterns. As before, cohort 2 has the highest wanted completed fertility 2, followed by cohort 1 and cohort 7 has the lowest

with cohort 6 the second lowest value. The pattern for the middle cohorts here is the opposite of what it was for expected family size. Among cohorts 3, 4 and 5, cohort 3 has the lowest wanted completed fertility 1 and cohort 5 the highest.

Unadjusted and adjusted deviations from the grand mean for wanted completed fertility 2 for each sociological variable acting together with cohort are shown in Table 6.8. The general pattern here, as before, is for wanted completed fertility 2 to decline with cohort. After controlling for each sociological variable in turn, cohort 2 has the largest wanted completed fertility 2, followed by cohort 1 at considerable distance and cohort 7 uniformly has the lowest, with cohort 6 a close second to the lowest. The middle cohorts hover closely around the grand mean after adjustment is made for each sociological variable.

Variability in wanted completed fertility 2 across cohorts is decreased by adjustment for each sociological variable, although not by much for some variables. Cohort is shown to have the greater influence on wanted completed fertility 2 when taken together with each sociological variable, as shown by the beta weights appearing in Table 6.8. After adjustment for cohort, those variables having the greatest influence on wanted completed fertility 2 include tolerance of large families, egalitarian attitudes and traditional mother role orientation. The variable, traditional sex ratio preferences which was found to have the same unadjusted value as traditional mother role orientation in Table 6.2, loses its importance after adjustment for cohort.

Table 6.8 Wanted completed fertility 2 by cohort and sociological variables each in turn. Unadjusted and adjusted deviations by cohort

Cohort	Deviations from Grand Mean (2.79)					
	Mother Role		Female Role		Tolerance of Large Families	
	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted
c.1	.26	.21	.26	.24	.26	.13
c.2	1.07	1.01	1.07	1.06	1.07	1.04
c.3	-.04	-.04	-.04	-.05	-.04	-.03
c.4	.01	-.01	.01	.01	.01	.01
c.5	.05	.02	.05	.04	.05	.05
c.6	-.25	-.24	-.25	-.24	-.25	-.18
c.7	-.33	-.28	-.33	-.32	-.33	-.33
Range	1.40	1.29	1.40	1.38	1.40	1.37
Beta	Cohort	.21	Cohort	.22	Cohort	.21
	Mother role	.09	Female role	.03	Tolerance	.16
	Egalitarian Attitudes		Childbearing Motivation		Sex Preferences in Children	
	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted
c.1	.26	.20	.26	.23	.26	.26
c.2	1.07	1.02	1.07	1.05	1.07	1.06
c.3	-.04	-.04	-.04	-.03	-.04	-.05
c.4	.01	.02	.01	.02	.01	.00
c.5	.05	.03	.05	.04	.05	.05
c.6	-.25	-.23	-.25	-.24	-.25	-.25
c.7	-.33	-.30	-.33	-.34	-.33	-.32
Range	1.40	1.32	1.40	1.39	1.40	1.38
Beta	Cohort	.21	Cohort	.22	Cohort	.22
	Egal. attitudes	.10	Childbearing	.06	Sex preferences	.04

The second step in this section, as in previous chapters, is to test for interactions among predictor variables before submitting all sociological variables together to further analysis. Tests for interaction are made by means of two-way analysis of variance, according to the specifications outlined in Chapter 4. Appendix Tables E.1 to E.54 present the summary results of analysis of variance for the three dependent variables.

For expected family size, the following statistically significant interactions were found in Tables E.1 to E.18:

Cohort-Childbearing	.015
Egalitarian attitudes-Childbearing	.036

For wanted completed fertility 1, the following interactions with accompanying levels of statistical significance were found (Tables E.19 to E.36):

Cohort-Childbearing	.019
Egalitarian attitudes-Childbearing	.052

Only one statistically significant interaction was found for wanted completed fertility 2 (Tables E.37 to E.54):

Cohort-Childbearing	.075

6.4 <u>Sociological Variables Acting Together</u>

Multiple Classification Analysis is continued in this section with analysis of the effects of all sociological variables acting together with cohort for the three dependent variables. The results of multiple regression analysis within cohort categories are also presented. One variable in each pair found to be interactive in the above analysis is

eliminated from this MCA. For each dependent variable, MCA is done twice with different omitted variables. Results are presented in Tables 6.9 to 6.14.

In Table 6.9, unadjusted and adjusted deviations from the grand mean for expected family size are shown with the variable traditional childbearing motivation omitted. As indicated by beta weights appearing at the bottom of the table, cohort and tolerance of large families appear to have the most pronounced explanatory power followed at some distance by egalitarian attitudes, once all other variables in the model are held constant. These findings are consistent with earlier findings for uncontrolled relationships in Table 6.2 and separate analyses in Table 6.3.

The effect of adjustment for all six variables in the model simultaneously is to generally decrease deviations from the grand mean. The decline in expected family size (from cohort 2 through 7) becomes slightly less accentuated as a result of adjustments, with both earlier and later cohorts being adjusted downwards. The inverse relationship between cohort and expected family size, except for cohorts 1 and 3, is clear with a range of 1.30 remaining sizeable. This range is more closely allied in magnitude with that found for the background variables in Table 4.26 than that found for economic variables in Table 5.10. Decrease in deviation is most pronounced for cohort 2 where the unadjusted and adjusted deviation from the mean is greatest. Effects of adjustment are far less substantial but still sizeable in cohorts 5, 6 and 7. Adjustment effects are least pronounced in cohorts 1, 3 and 4.

Table 6.9 Expected family size by cohort with mother role orientation, traditional female role orientation, tolerance of large families, egalitarian attitudes and traditional sex preferences in children acting together. Unadjusted and adjusted deviations. Beta weights for sociological variables and multiple R for all variables together

			Deviations from grand mean (2.79)	
Cohort	N		Unadjusted	Adjusted
c.1	92		.28	.12
c.2	48		1.11	1.02
c.3	105		.14	.11
c.4	114		.16	.15
c.5	117		-.01	-.10
c.6	150		-.31	-.23
c.7	156		-.34	-.28
Range			1.45	1.30
Beta				
Cohort		.199		
Mother role		.042		
Female role		.022		
Large families		.170		
Egal. attitudes		.083		
Sex preferences		.034		
Multiple R		.280		

Table 6.10 presents the results of an MCA for five sociological variables, omitting egalitarian attitudes and cohort with expected family size as dependent variable again. Here, beta weights confirm the findings of Table 6.9 that tolerance of large families is an important explanatory variable. This variable is followed, at some considerable distance, by traditional sex ratio preferences in children and traditional female role orientation. Mother role orientation, a variable found to be of relative importance in the uncontrolled analysis reported in Table 6.2, and traditional childbearing motivation emerge in this version of MCA as important.

An MCA similar to the one appearing in Table 6.9 is presented in Table 6.11 for wanted completed fertility 1. Cohort, tolerance of large families and egalitarian attitudes, the same variables as found to be important for expected family size, emerge as important in explaining wanted completed fertility 1. In this instance, however, cohort and tolerance of large families have equal effects on wanted completed fertility 1. This finding is consistent with both the uncontrolled analysis reported in Table 6.2 and the separate effects analysis summarized in Table 6.5.

As was found for expected family size, the general effect of adjustment for the six variables in the model simultaneously is to decrease variability in wanted completed fertility 1 across cohorts but to a slightly greater degree than for expected family size. Cohort 2 again experiences the greatest decrease as a result of adjustment and cohorts

Table 6.10 Eta and beta weights for expected family size by mother role orientation, traditional female role orientation, tolerance of large families, traditional childbearing motivation and traditional sex preferences in children. Multiple R for all variables together

	Eta	Beta
Mother role	.124	.046
Female role	.106	.068
Large families	.208	.194
Childbearing	.076	.038
Sex preferences	.077	.071
Multiple R	.214	

Table 6.11 Wanted completed fertility 1 by cohort with mother role orientation, traditional female role orientation, tolerance of large families, egalitarian attitudes and traditional sex preferences in children acting together. Unadjusted and adjusted deviations. Beta weights for sociological variables and multiple R for all variables together

			Deviations from grand mean (2.67)	
Cohort	N		Unadjusted	Adjusted
c.1	92		.25	.08
c.2	48		.97	.87
c.3	105		.04	.01
c.4	114		.19	.18
c.5	117		-.12	-.13
c.6	150		-.26	-.18
c.7	156		-.27	-.18
Range			1.24	1.05
Beta				
Cohort		.171		
Mother role		.054		
Female role		.042		
Large families		.171		
Egal. attitudes		.103		
Sex preferences		.030		
Multiple R		.273		

6 and 7 only slightly smaller decreases. Changes in deviation from the grand mean as a result of adjustment are least pronounced in cohorts 1, 3 and 5. Following adjustment, the relationship between cohort and wanted completed fertility 1 is less clearly inverse than it was for expected family size. Although cohort 2 shows highest wanted completed fertility 1 and cohorts 6 and 7 lowest, the decline is not consistent from cohorts 2 through 7.

In Table 6.12 the results of an MCA with wanted completed fertility 1 as the dependent variable and five sociological variables, with cohort and egalitarian attitudes omitted, are summarized. As was found in Table 6.11, tolerance of large families is an important explanatory variable. As for expected family size, in this case, tolerance is followed in importance at some distance by traditional female role orientation and traditional sex ratio preferences. Traditional mother role orientation, found to be of medium level importance in the uncontrolled analysis reported in Table 6.2, and traditional childbearing motivation are not found to be important in explaining wanted completed fertility 1.

A parallel analysis to that appearing in Tables 6.9 and 6.11 for expected family size and wanted completed fertility 1 appears in Table 6.13 for wanted completed fertility 2. Beta weights appearing at the bottom of the table indicate that although the variables showing the most impact on wanted completed fertility 2 are the same ones that were important in explaining expected family size and wanted completed fertility 1, the rank order is different. Tolerance of large families slightly outweighs cohort in importance followed at some distance by

Table 6.12 Eta and beta weights for wanted completed fertility 1 by mother role orientation, traditional female role orientation, tolerance of large families, traditional childbearing motivation and traditional sex preferences in children. Multiple R for all variables together

	Eta	Beta
Mother role	.130	.045
Female role	.116	.076
Large families	.213	.195
Childbearing	.086	.026
Sex preferences	.066	.061
Multiple R	.219	

Table 6.13 Wanted completed fertility 2 by cohort with mother role orientation, traditional female role orientation, tolerance of large families, egalitarian attitudes and traditional sex preferences in children acting together. Unadjusted and adjusted deviations. Beta weights for sociological variables and multiple R for all variables together

			Deviations from grand mean (2.78)	
Cohort	N		Unadjusted	Adjusted
c.1	92		.25	.12
c.2	48		.95	.86
c.3	105		.04	.03
c.4	114		.13	.12
c.5	117		-.04	-.04
c.6	150		-.21	-.14
c.7	156		-.33	-.28
Range			1.28	1.14
Beta				
Cohort		.165		
Mother role		.055		
Female role		.009		
Large families		.169		
Egal. attitudes		.082		
Sex preferences		.031		
Multiple R		.239		

egalitarian attitudes. This differs from the findings in the uncontrolled analysis where cohort had more importance than tolerance of large families (Table 6.2) as well as the findings of the separate analyses described earlier.

The overall effect of simultaneous adjustment for the six sociological variables included in the model is to decrease the variability across cohorts in wanted completed fertility 2. The magnitude of overall adjustment for wanted completed fertility 2 resembles that obtained in the two previous analyses. As was found for the other two dependent variables, adjustment for the sociological variables with wanted completed fertility 2 has the greatest effect in cohorts 2, 6 and 7. Smallest changes in deviations from the grand mean are found in cohorts 3 and 5 with larger changes in cohorts 1 and 4. The relationship between cohort and wanted completed fertility 2 is less clearly inverse than that found between cohort and expected family size. The pattern also differs from that found for wanted completed fertility 1. Cohort 2 shows the highest wanted completed fertility 2 and cohorts 6 and 7 the lowest, as was found for both of the other dependent variables. Unlike the pattern found for wanted completed fertility 1 (Table 6.11), the high level of wanted completed fertility 2 found in cohort 2 is followed by cohorts 1 and 4.

Table 6.14 shows summary results of a second MCA performed with wanted completed fertility 2 as the dependent variable. The non-significant level of interaction found between egalitarian attitudes and traditional childbearing motivation for wanted completed fertility 2 permits inclusion of egalitarian attitudes in this analysis where this

Table 6.14 Eta and beta weights for wanted completed fertility 2 by mother role orientation, traditional female role orientation, tolerance of large families, egalitarian attitudes, traditional childbearing motivation and traditional sex preferences in children. Multiple R for all variables together

	Eta	Beta
Mother role	.083	.041
Female role	.062	.025
Large families	.182	.187
Egalitarian attitudes	.111	.101
Childbearing	.054	.050
Sex preferences	.079	.074
Multiple R	.196	

variable was previously omitted. As was found in both previous analyses with the other two dependent variables, tolerance of large families emerges as the most influential sociological variable on wanted completed fertility 2 both when cohort is included and when it is not. Second in importance is egalitarian attitudes, a variable found to be important in the earlier reported uncontrolled analysis, the separate analyses and the MCA appearing in Table 6.13. Following at some distance is traditional sex ratio preferences, a variable found to have a level of influence on wanted completed fertility 2 equal to that of traditional mother role orientation in the earlier uncontrolled analysis but shown to have less importance than mother role in subsequent separate analyses. Variables with little influence on wanted completed fertility 2 include traditional mother role orientation, a variable found in earlier analysis to lose its explanatory import once cohort was added to the model, traditional female role orientation and traditional childbearing motivation.

It would appear, in summary, that on the basis of the Multiple Classification Analysis with all sociological variables acting together, limited support is found for the explanatory value of the sociological utilities model as operationalized here. When cohort is included in the analysis, cohort supersedes all sociological variables in explanatory power for expected family size, ties with an attitudinal variable for wanted completed fertility 1 and is slightly superseded by the same attitudinal variable, tolerance of large families, for wanted completed fertility 2. The variable of third rank importance for expected family size and wanted completed fertility 2 and of second rank for wanted

completed fertility 1 in the same MCA is egalitarian attitudes, a variable that is measuring aspects of role preferences.

The second set of analyses in which cohort and egalitarian attitudes are omitted when expected family size and wanted completed fertility 1 are the dependent variables, and only cohort when wanted completed fertility 2 is the dependent variable similarly provides only mixed support for the explanatory potential of the sociological utilities model. In all three instances, tolerance for large families emerges as the critical determinant of family size. For expected family size, the variable of second-level importance is sex ratio preference, a variable which might be said to contain elements of normative role preferences, followed by traditional female role orientation, the classic role preference variable. The order of these variables is reversed for the wanted completed fertility 1 analysis. For wanted completed fertility 2, egalitarian attitudes ranks second after tolerance, followed by sex ratio preferences in children.

The next step in the analysis is the examination of multiple regression applied first to each cohort separately and then summarized for each dependent variable with cohort included in the regression model for categories of religion. This analysis, taken in conjunction with the MCA's described above, provides the basis for testing the first hypothesis outlined in Section 6.1. Regression adds to the analysis by permitting examination of the directionality of effects as well as patterns by cohort. All operationalized sociological variables, being ordinal scales, are appropriate for inclusion in the regression analysis.

As in the previous two chapters, order of variable entry to the hierarchical regression analysis is determined by zero-order relationships between the independent and dependent variables. The order of appearance of independent variables in each table reflects order of submission to the regression equation.

Tables 6.15 through 6.17 present standardized regression coefficients for each cohort and for the entire sample. Each table reveals findings for a separate dependent variable. Asterisked coefficients have reached the .05 level of statistical significance. With expected family size as the dependent variable, Table 6.15 shows that for the entire sample, only mother role orientation and traditional female role orientation have a statistically significant influence. Mother role orientation has a very small positive influence. Female role orientation has a similarly small negative impact. It will be recalled that female role orientation emerged as an important explanatory variable in the MCA as well. The variable, traditional sex ratio preference in children, which was found to be important in the earlier MCA, does not reach statistical significance here.

Mother role orientation, although found to have a small overall effect on expected family size, has a highly variable but statistically significant effect in each cohort but the earliest. It has the largest influence in cohorts 3 and 4 in which it has a not surprising positive impact on expected family size. Female role orientation emerges as having a small and variable but statistically significant effect on expected family size in every cohort. Variability in direction of effects

Table 6.15 Standardized regression coefficients by cohort with tolerance of large families, egalitarian attitudes, mother role orientation, traditional female role orientation, traditional sex ratio preferences in children and traditional childbearing motivation as independent variables and expected family size as dependent variable

Cohort	N	Coefficients		
		Tolerance of large families	Egalitarian attitudes	Mother role orientation
1	98	.26	-.22	-.24
2	70	.20*	.05*	-.09*
3	115	.06*	-.18*	.19*
4	119	.12*	-.05*	.19*
5	115	.24	.11*	-.04*
6	156	.12*	-.03*	.03*
7	148	.36	-.13*	.04*
Total	1045	.22	-.08	.02*

*statistically significant at .05 or lower

Table 6.15 continued

Cohort	Coefficients			R^2	SEE
	Female role orientation	Sex ratio preferences	Childbearing motivation		
1	.02*	.06*	-.11*	.10	1.90
2	.02*	-.12*	.33	.17	1.80
3	.03*	-.11*	-.20	.10	1.63
4	-.09*	.09*	-.15*	.09	1.55
5	-.06*	.12*	-.18	.08	1.43
6	.03*	.08*	.15	.06	1.42
7	.00*	.03*	-.09*	.15	1.05
Total	-.05*	.05	-.08	.06	1.55

Table 6.16 Standardized regression coefficients by cohort with tolerance of large families, egalitarian attitudes, mother role orientation, traditional female role orientation, traditional sex ratio preference in children and traditional childbearing motivation as independent variables and wanted completed fertility 1 as dependent variable

Cohort	N	Coefficients		
		Tolerance of large families	Egalitarian attitude	Mother role orientation
1	98	.25	-.22	-.22*
2	70	.22*	.01*	-.10*
3	115	.02*	-.16*	.19*
4	119	.14*	-.02*	.18*
5	115	.23*	.09*	-.05*
6	156	.11*	.02*	-.02*
7	148	.32	-.13*	.05*
Total	1045	.22	-.08	.02*

Table 6.16 continued

Cohort	Coefficients			R^2	SEE
	Female role orientation	Sex ratio preferences	Childbearing motivation		
1	.03*	.04*	-.11*	.09	1.86
2	.00	-.11*	.32	.17	1.82
3	.02*	-.09*	-.18	.09	1.56
4	-.11*	.06*	-.13*	.10	1.52
5	-.07*	.14	-.15*	.07	1.36
6	-.01*	.07*	.16	.05	1.36
7	.02*	.02*	-.06*	.14	1.08
Total	-.06	.04*	-.07	.07	1.51

Table 6.17 Standardized regression coefficients by cohort with tolerance of large families, egalitarian attitudes, mother role orientation, traditional sex ratio preferences, traditional female role orientation and traditional childbearing motivation as independent variables and wanted completed fertility 2 as dependent variable

Cohort	N	Coefficients		
		Tolerance of large families	Egalitarian attitudes	Mother role orientation
1	98	.23*	.24	-.23
2	70	.19*	-.02*	-.09*
3	115	.09*	-.19*	.14*
4	119	.09*	.05*	.17*
5	115	.23*	.08*	-.04*
6	156	.12*	.00*	.02*
7	148	.32	-.13*	.00
Total	1045	.20	-.07	.00

Table 6.17 continued

Cohort	Coefficients			R^2	SEE
	Sex ratio preferences	Female role orientation	Childbearing motivation		
1	.06*	.06*	-.09*	.10	1.91
2	-.10*	.10*	.32	.15	1.86
3	-.10*	.06*	-.17	.08	1.56
4	.00*	-.08*	-.07*	.05	1.65
5	.15*	-.02*	-.18*	.07	1.55
6	.09*	.04*	.13*	.06	1.50
7	-.00*	.01*	-.11*	.11	1.07
Total	.04*	-.02*	-.08	.04	1.61

on the dependent variable here might indicate problems of multicolinearity. On the other hand it might be that distance from the childbearing experience, either in past or in future, has the consequence of producing different relationships between role orientations and expected family size.

Other sociological variables, although not statistically significant overall, emerge as significant within some cohorts. Tolerance of large families has a positive effect on expected family size in cohorts 2, 3, 4 and 6. Egalitarian attitudes reveals an inconsistent but generally negative effect in cohorts 2 through 7. Traditional sex ratio preferences in children emerges as statistically significant in early cohort, although not overall. For more recent cohorts, i.e. cohorts 4 through 7, this variable exerts a small positive influence on expected family size. The findings from the regression analysis for traditional childbearing motivation are highly variable. This variable has a statistically significant negative influence only in cohorts 1, 4 and 7.

Examination of the configuration of sociological variables influencing expected family size within each cohort leads to some interesting conclusions. Moving from earliest to latest cohorts, there seems to be a slight decline in traditional childbearing motivation and sex ratio preferences as determinants of expected family size. A clear exception to this general trend emerges for cohort 5 in which sex ratio preferences is the most important explanatory variable. As well there seems to be a discernible elevation of egalitarian attitudes, female and mother role orientation as important explanatory variables. It is somewhat

surprising to note, however, that sociological variables are not more successful in explaining expected family size in more recent cohorts, as indicated by the R^2. Overall, these sociological variables have less success in explaining expected family size than the economic variables examined in Chapter 5.

Tables 6.18 through 6.21 present results of multiple regression analyses with cohort added to the model for each of the three dependent variables for the total sample and for three major categories of religion. For the overall sample, as shown in Table 6.18, with cohort added to the model, variance explained in expected family size increases somewhat but remains small. The small but statistically significant effect of mother role orientation on expected family size remains unchanged. The negative influence of female role orientation, already small, diminishes further once cohort is added. As well, childbearing motivation and traditional sex ratio preferences in children emerge as statistically significant, the former with a small negative coefficient and the latter with a small positive coefficient.

In the analysis of Protestants, in Table 6.19, childbearing motivation disappears as an influential variable while the direction of influence of mother role orientation changes to negative. For Catholics, in Table 6.20, a positive influence of mother role orientation on expected family size emerges as well as a larger positive influence of female role orientation. For Catholics, egalitarian attitudes and sex ratio preferences emerge as statistically significant, the latter with a positive effect and the former with a negative effect. For others, as shown in Table 6.21, childbearing motivation has the largest influence

Table 6.18 Standardized regression coefficients with respondent's cohort, mother role orientation, traditional female role orientation, tolerance of large families, egalitarian attitudes, traditional childbearing motivation and traditional sex ratio preferences in children as independent variables and expected family size, wanted completed fertility 1 and wanted completed fertility 2 as dependent variables

Total

	Coefficients			
	Cohort	Mother role orientation	Female role orientation	Tolerance of large families
Expected family size	-.16	.02*	-.01*	.17
Wanted completed fertility 1	-.14	.02*	-.02*	.16
Wanted completed fertility 2	-.13	.02*	-.02*	.16

Table 6.18 continued

	Coefficients			R^2	SEE
	Egalitarian attitudes	Childbearing motivation	Sex ratio preferences		
Expected family size	-.09	-.05*	.03*	.08	1.53
Wanted completed fertility 1	-.08	-.04*	.02*	.07	1.48
Wanted completed fertility 2	-.08	-.04*	.02*	.06	1.56

Table 6.19 Standardized regression coefficients with respondent's cohort, mother role orientation, traditional female role orientation, tolerance of large families, egalitarian attitudes, traditional childbearing motivation and traditional sex ratio preferences in children as independent variables and expected family size, wanted completed fertility 1 and wanted completed fertility 2 as dependent variables

Protestants

	Coefficients			
	Cohort	Mother role orientation	Female role orientation	Tolerance of large families
Expected family size	-.15	-.05*	-.04*	.13
Wanted completed fertility 1	-.14	-.05*	-.04*	.11
Wanted completed fertility 2	-.12	-.06*	.00*	.11*

Table 6.19 continued

	Coefficients			R^2	SEE
	Egalitarian attitudes	Childbearing motivation	Sex ratio preferences		
Expected family size	-.21	-.12	-.02*	.10	1.29
Wanted completed fertility 1	-.20	-.10	-.04*	.08	1.24
Wanted completed fertility 2	-.22	-.12	-.04*	.08	1.31

Table 6.20 Standardized regression coefficients with respondent's cohort, mother role orientation, traditional female role orientation, tolerance of large families, egalitarian attitudes, traditional childbearing motivation and traditional sex ratio preferences in children as independent variables and expected family size, wanted completed fertility 1 and wanted completed fertility 2 as dependent variables

Catholics

	Coefficients			
	Cohort	Mother role orientation	Female role orientation	Tolerance of large families
Expected family size	-.16	-.04*	.12*	.23
Wanted completed fertility 1	-.14	.06*	.11*	.24
Wanted completed fertility 2	-.14	.05*	.14	.14

Table 6.20 continued

	Coefficients			R^2	SEE
	Egalitarian attitudes	Childbearing motivation	Sex ratio preferences		
Expected family size	-.08*	-.04*	.08*	.10	1.69
Wanted completed fertility 1	-.07*	-.03*	.07*	.10	1.64
Wanted completed fertility 2	-.06*	-.04*	.09*	.10	1.73

Table 6.21: Standardized regression coefficients using respondent's cohort, mother role orientation, traditional female role orientation, tolerance of large families, egalitarian attitudes, traditional childbearing motivation and traditional sex ratio preferences in children as independent variables and expected family size, wanted completed fertility 1 and wanted completed fertility 2 as dependent variables

Others

	Coefficients			
	Cohort	Mother role orientation	Female role orientation	Tolerance of large families
Expected family size	-.26	.17	-.27	.02*
Wanted completed fertility 1	-.22	.15*	-.29	.03*
Wanted completed fertility 2	-.21	.15*	-.22	.06*

Table 6.21 continued

	Coefficients			R^2	SEE
	Egalitarian attitudes	Childbearing motivation	Sex ratio preferences		
Expected family size	.26	.11*	.06*	.27	1.61
Wanted completed fertility 1	.22	.12*	.08*	.25	1.62
Wanted completed fertility 2	.32	.14*	.05*	.24	1.65

on expected family size, in the predicted direction. Sex ratio preferences and tolerance of large families also emerge as statistically significant, both having a positive effect. Although only a small amount of variance is explained by sociological variables including cohort for Protestants and Catholics, the variance explained by the same variables in expected family size for others is considerably larger. No comparable difference was observed in the analysis of economic variables in Chapter 5 in which, it will be recalled, variance explained was considerably greater for Protestants than for Catholics. Others, in this earlier analysis, more closely resembled Protestants in variance explained.

Results of the regression analysis with sociological variables by cohort and for the total sample with wanted completed fertility 1 are presented in Table 6.16. For the total sample in this analysis, it is immediately apparent that female role orientation is displaced by sex ratio preferences while mother role orientation continues to exert a small positive influence on the dependent variable. The configuration within cohorts remains fundamentally unchanged with rank orders of some of the influential variables changing somewhat from the previous analysis. Variance in wanted completed fertility 1 explained by sociological variables remains low. Those variables found to be important in explaining expected family size by major religious groups once cohort is added to the regression model, as shown in Tables 6.18 through 6.21, remain unchanged when wanted completed fertility 1 becomes the dependent variable.

In the regression analysis with wanted completed fertility 2 as the dependent variable, as shown in Table 6.17, female role orientation emerges with a statistically significant negative effect on the dependent variable as does sex ratio preferences in children with a small positive effect. The configuration of influential sociological variables for each cohort remains essentially unchanged in the analysis of wanted completed fertility 2. The major exception occurs in cohort 1 where in this analysis tolerance of large families emerges as statistically significant while mother role orientation does not. Variance explained in wanted completed fertility 2 by sociological variables remains small and exhibits considerable variability across cohorts. Once cohort is added to the analysis, as shown in Table 6.18, the same variables as were found to be important in the previous two analyses emerge once again. In the regression analysis of Protestants, appearing in Table 6.19, it is found that in the case of wanted completed fertility 2, tolerance of large families has a statistically significant positive effect. This does not emerge in the analyses with the other two dependent variables. For Catholics, as shown in Table 6.20, although most variables are the same in explaining the three dependent variables, female role orientation in the case of wanted completed fertility 2 does not reach statistical significance. For others, patterns of influence remain the same with more variance being explained by sociological variables for this group than for Protestants or Catholics.

The results of the regression analyses seem to be somewhat at variance with the earlier MCA findings. Attitudinal variables such as

tolerance of large families and egalitarianism do not emerge in the overall regression analyses as variables of first-rate importance. Clearly, however, these variables surface as important determinants of all three dependent variables within specific cohorts. Somewhat surprisingly in the regression analysis with cohort as an independent variable, cohort does not emerge as a variable of significance as it did in the previous MCAs.

On the positive side, however, the regression analyses seem to point toward some interesting conclusions. First, there appears to be a general trend, as noted in the configuration of influential sociological variables by cohort, for role orientations and egalitarian attitudes to be more important determinants of family size preferences among more recent cohorts. The importance of traditional childbearing motivations tends to decline over cohorts. These findings, although lending some support to the hypotheses that respondents who are more traditional in their role preferences and attitudes want and expect more children, must be interpreted cautiously. This is particularly true in light of inconsistencies found across cohorts in both role preferences and wanted family size. The role preference notion, if important, seems confined by cohort and by attitudinal measures such as tolerance of large families and egalitarianism.

Second, the regression analyses in failing to explain a substantial portion of the variance in family size preferences, seem to provide only limited support for the sociological utilities model. Variance explained by the economic utilities model in Chapter 5 was

considerably larger. Of course, this result could simply be a function of the particular variables employed in this analysis. In conjunction with this observation, some not inconsiderable variability in variance explained across cohorts emerges. It seems just to conclude on the basis of this analysis that, taken together, sociological variables are not more successful at explaining family size preferences in later than in earlier cohorts. The finding that sociological variables show more success at experiencing family size preferences among non-Protestants, non-Catholics is a perplexing one, probably deserving further attention.

6.5 Background, Economic And Sociological Variables Considered Together

The intent of this section is two-fold: (1) to compare the explanatory potential of each of the three sets of variables thus far considered when the important explanatory variables in all three sets are acting simultaneously and (2) to compare the explanatory potential of variables found to be important in the economic utilities model with similar variables in the sociological utilities model. The problem is defined as one of maximally distinguishing among family size preference groups on the basis of those variables which measure characteristics expected to be of value in differentiating among the groups. This problem seems well-suited to discriminant analysis.

The essential objective in discriminant analysis is to weight and combine linearly variables measuring characteristics of the groups under consideration in such a way that the groups are as statistically distinct as possible. An attempt is made to find dimensions, known as discriminant functions, along which groups cluster. The discriminant

function typically takes the form:

$$D_i = d_{i1}Z_1 + d_{i2}Z_2 + \ldots + d_{ip}Z_p$$

where Di is the score on discriminant function i, d's are weights and Z's are standardized values of the p discriminating variables in the analysis (Cacoullos, 1973). It is possible to undertake a stepwise discriminant analysis to first discern those variables which would be most useful in further analysis. Using this procedure, only those variables selected on the basis of their contribution to discrimination are employed in subsequent analyses.

Two sets of groups of family size preferences are chosen for this analysis. First, all three dependent variables are recoded into the following six categories: 0, 1, 2, 3, 4, and 5+. Then, in light of the findings reported in Chapter 4 in support of a distinct normative range of fertility, expected family size and wanted completed fertility 1 and 2 are recoded into three categories defined as below, within and above the normative range: 0-1, 2-4, and 5+. For each of the sets of recoded variables, a step-wise discriminant analysis is undertaken for each of the three dependent variables separately with background variables, economic variables and sociological variables. Those variables which are found to add to discrimination, on the basis of the increase in Rao's V, are combined in the subsequent analysis of background, economic and sociological variables together and then of only economic and sociological variables.

Tables 6.22 through 6.24 show, in summary, the results of the stepwise discriminant analyses for each dependent variable separately coded into six categories, with each set of independent variables

analyzed separately. For each analysis, the following measures are shown: the partial multivariate F ratio measuring discrimination introduced by the given variable after taking into consideration discrimination attained by other selected variables, Wilks' lambda which measures differences between centroids and homogeneity within groups, Rao's V which is a generalized distance measure, change in Rao's V or the change in discrimination power due to the addition of the new variable and the significance of the change in Rao's V, a test for statistical significance.

From Table 6.22, it is evident that the best single discriminating variable, discriminating among the six categories of expected family size, in each of the three sets of independent variables is cohort. The variable among background variables best able to improve discrimination among the categories of expected family size, when working on conjunction with cohort, is education. Only two additional variables add a statistically significant amount to Rao's V: religion and religiosity. In the analysis of economic variables, proportion of years worked by the respondent is the variable which, when added to cohort, contributes the most in terms of discrimination among the six categories of expected family size. This variable is followed by education and relative income position. Interestingly, when support of post-secondary education is operating together with the four variables preceding it on the list, a jump is made in discriminating power greater than that made by adding any of the three preceding variables. Following cohort in the stepwise analysis of the sociological variables is childbearing motivation, somewhat surprisingly in light of the results of the MCA and the regression analyses. When tolerance of large families is added to child-

Table 6.22 Summary table of discriminant function analysis for expected family size (6 categories)* with each of the following sets of variables separately: background variables and cohort, economic variables and cohort, and sociological variables and cohort

Variables entered	F to enter	Wilks' lambda	Rao's V	Change in Rao's V	Significance of change
Background					
Cohort	18.42	.84	92.16	92.16	.000
Education	4.22	.80	113.90	21.74	.001
Religiosity	1.99	.79	124.69	10.78	.056
Residence in youth	1.89	.77	134.20	9.51	.090
Economic					
Cohort	16.61	.85	83.24	83.24	.000
Years worked	4.33	.81	105.26	22.02	.001
Education	4.19	.77	127.45	22.19	.000
Relative income	2.86	.75	142.80	15.35	.009
Post-sec. support	4.37	.71	165.55	22.75	.000
Ownership	2.30	.69	178.36	12.82	.025
Financial success	2.48	.68	191.10	12.73	.026
Sociological					
Cohort	24.54	.86	122.95	122.95	.000
Childbearing	4.16	.83	144.49	21.54	.001
Large families	5.41	.80	174.34	29.85	.000
Egal. attitudes	2.59	.79	188.05	13.71	.018
Female role	1.56	.78	195.97	7.92	.161

* In Tables 6.22 through 6.30, all three dependent variables (expected family size, wanted completed fertility 1 and wanted completed fertility 2) are coded into six categories as follows: 0, 1, 2, 3, 4 and 5+.

bearing motivation and cohort, however, a larger change in Rao's V is seen than when childbearing alone is added to cohort. Not surprisingly, egalitarian attitudes is the fourth variable adding to discrimination among the six expected family size categories. The addition of female role orientation does not change Rao's V in a statistically significant way.

Table 6.23 presents in summary the results of the stepwise discriminant analysis for wanted completed fertility 1. Once again it is cohort that emerges as the best single discriminating variable for each separate analysis. The variables found to be useful in discriminating among the six categories of wanted completed fertility 1 are the same ones, in the identical order, as those reported in Table 6.22 for expected family size. In the analysis of economic variables, the variables showing discrimination for wanted completed fertility 1 are the same as those indicated for expected family size. The first four variables of importance emerge in the same order as those for expected family size. Only the order of ownership of high status items and post-secondary support is reversed in this case. For the sociological variables too, variables of salient discriminatory power are the same for wanted completed fertility 1 as for expected family size, with only the order of tolerance of large families and childbearing motivation being reversed. Once egalitarian attitudes is added to the three variables preceding it, Rao's V changes to a greater extent than when adding childbearing motivation to the two variables preceding it.

The pattern of discriminating variables reported in Table 6.24 for wanted completed fertility 2 is very similar to that appearing in

Table 6.23 Summary table of discriminant function analysis for wanted completed fertility 1 (6 categories) with each of the following sets of variables separately: background variables and cohort, economic variables and cohort, and sociological variables and cohort

Variables entered	F to enter	Wilks' lambda	Rao's V	Change in Rao's V	Significance of change
Background					
Cohort	15.36	.86	76.90	76.90	.000
Education	4.13	.83	97.92	21.01	.001
Religiosity	2.25	.81	109.92	12.00	.035
Residence in youth	1.17	.80	115.88	5.96	.310
Economic					
Cohort	13.36	.87	66.93	66.93	.000
Years worked	4.47	.83	89.84	22.91	.000
Education	3.97	.80	110.86	21.02	.001
Relative income	2.52	.77	124.31	13.46	.019
Ownership	2.53	.75	138.03	13.72	.017
Post-sec. support	3.22	.73	155.26	17.23	.004
Financial success	1.71	.71	164.08	8.82	.117
Sociological					
Cohort	18.34	.89	91.90	91.90	.000
Large families	7.97	.84	133.77	41.87	.000
Childbearing	2.03	.83	144.05	10.28	.068
Egal. attitudes	2.79	.82	159.00	14.95	.011
Female role	1.35	.81	165.83	6.83	.233

Table 6.24 Summary table of discriminant function analysis for wanted completed fertility 2 (6 categories) with each of the following sets of variables separately: background variables and cohort, economic variables and cohort, and sociological variables and cohort

Variables entered	F to enter	Wilks' lambda	Rao's V	Change in Rao's V	Significance of change
Background					
Cohort	14.05	.87	70.30	70.30	.000
Education	5.37	.81	97.77	27.47	.000
Religiosity	1.80	.81	107.44	9.67	.085
Residence in youth	1.50	.80	115.06	7.62	.179
Economic					
Cohort	14.19	.86	71.09	71.09	.000
Education	5.04	.82	96.59	25.50	.000
Years worked	3.63	.79	115.92	19.33	.002
Relative income	3.43	.76	134.33	18.41	.002
Post-sec. support	4.32	.72	156.96	22.62	.000
Ownership	1.87	.71	167.51	10.55	.061
Financial success	1.84	.69	177.26	9.75	.083
Sociological					
Cohort	17.52	.89	87.80	87.80	.000
Childbearing	3.93	.87	107.65	19.85	.001
Large families	4.85	.84	133.69	26.04	.000
Egal. attitudes	2.45	.83	146.50	12.82	.025
Female role	1.17	.82	152.49	5.99	.307

Table 6.22 for expected family size. Actually the only discrepancy, other than in magnitude of Rao's V and changes in Rao's V, occurs in the analysis of economic variables where educational attainment becomes the variable best able to improve discrimination among categories of wanted completed fertility 2 surpassing proportion of years worked.

Table 6.25 reveals, in summary, the results of discriminant analysis utilizing those variables found in Table 6.22 to be of importance in discriminating among six categories of expected family size. Tables 6.26 and 6.27 do the same for wanted completed fertility 1 and 2, respectively. The list of variables added in stepwise progression to cohort, the single best discriminating variable, does not point clearly to any conclusions about the relative superiority of any single set of variables. The variable contributing most to discrimination when operating with cohort, is education, both a background and an economic variable. Education is followed by the sociological variable, child-bearing motivation. Then follows a series of four economic variables, the last of which (post-secondary support) contributes more to the change in Rao's V than the three variables preceding it. In terms of sheer tallies of variables producing a statistically significant change in Rao's V, economic variables exceed sociological which in turn exceed background variables.

Three discriminant functions with eigenvalues and levels of significance sufficiently high to be seriously considered are derived as a result of the discriminant analysis of expected family size with six groups. Standardized discriminant function coefficients and accompanying statistics appear at the bottom of Table 6.25. The coefficients

Table 6.25 Summary table of discriminant function analysis and standardized discriminant coefficients for expected family size (6 categories) with selected background variables, economic variables and sociological variables taken together

Variables entered	F to enter	Wilks' lambda	Rao's V	Change in Rao's V	Significance of change
Cohort	19.27	.84	96.46	96.46	.000
Education	4.82	.80	120.78	24.32	.000
Childbearing	4.57	.77	144.21	23.43	.000
Ownership	3.76	.74	164.00	19.79	.001
Years worked	3.05	.72	180.80	16.80	.005
Relative income	2.47	.70	194.80	13.99	.016
Post-sec. support	4.35	.67	217.52	22.72	.000
Egal. attitudes	1.80	.66	227.58	10.07	.073
Financial success	1.67	.65	236.30	8.72	.121
Religiosity	1.64	.64	245.97	9.67	.085
Residence in youth	1.68	.63	254.90	8.92	.112
Large families	2.08	.62	267.46	12.56	.028

Standardized discriminant function coefficients

Fn 1		Fn 2		Fn 3	
Cohort	.73	Education	.55	Post-sec. support	-.63
Large families	-.30	Large families	.45	Childbearing	.42
Religiosity	-.23	Years worked	.35	Residence in youth	.38
		Relative income	-.40		
		Cohort	-.33		
Eigenvalue	.247		.170		.072
Relative percentage	47.15		32.37		13.74
Chi-square	244.429		132.474		53.026
Df	60.		44.		30.
Significance	.000		.000		.006

represent relative contributions of those variables making the largest contributions to the respective discriminant functions. The first function represents an age-attitude-religious activity dimension. The relative percentage of the overall eigenvalue associated with this function is approximately 47 per cent. This dimension, then, is of considerable importance in explaining expected family size. The second function is comprised largely of economic concerns with age and attitudes toward large families. This dimension, when added to the first, explains 80 per cent of the variance in expected family size. The third function to reach statistical significance represents direct costs of childbearing-motivation-youthful residence. This function is of much less consequence than the first two in explaining differences in expected family size.

Table 6.26 parallels Table 6.25 for wanted completed fertility 1 for all variables found to be important in Table 6.23. As before, cohort emerges as the most important discriminating variable, with education in second place when acting with cohort and childbearing motivation in third when acting with the preceding two variables. The list of variables found to be of use in discriminating among six categories of wanted completed fertility 1 are almost the same as those found useful in the earlier analysis of expected family size. In the present analysis, however, financial success and residence in youth do not emerge as variables with discriminating power. In addition, the ordering in the hierarchy of years worked and ownership of status items is reversed, as is the order of egalitarian attitudes and extent of post-secondary

Table 6.26 Summary table of discriminant function analysis and standardized discriminant coefficients for wanted completed fertility 1 (6 categories) with selected background variables, economic variables and sociological variables taken together

Variables entered	F to enter	Wilks' lambda	Rao's V	Change in Rao's V	Significance of change
Cohort	16.42	.87	82.18	82.18	.000
Education	5.57	.82	110.39	28.21	.000
Childbearing	3.83	.79	130.08	19.69	.001
Years worked	4.36	.76	153.66	23.58	.000
Ownership	3.19	.74	170.87	17.21	.004
Relative income	2.32	.72	183.66	12.79	.025
Egal. attitudes	2.60	.70	197.86	14.20	.014
Post-sec. support	3.38	.68	216.30	18.45	.002
Religiosity	1.45	.67	224.70	8.39	.136
Large families	2.09	.66	236.27	11.57	.041

Standardized discriminant function coefficients

	Fn 1		Fn 2		Fn 3
Cohort	-.57	Cohort	.57	Post-sec support	-.60
Large families	.21	Relative income	.40	Egal. attitudes	-.32
Religiosity	.21	Education	-.54	Years worked	.49
		Childbearing	-.45		
Eigenvalue	.230		.144		.048
Relative percentage	51.23		32.08		10.69
Chi-square	217.734		109.180		38.621
Df	50.		36.		24.
Significance	.000		.000		.030

support. Interestingly, as one progresses down the list of discriminating variables, childbearing motivation adds little to Rao's V relative to other variables high on the list. Tolerance of large families and religiosity, last on the list of discriminating variables in this stepwise analysis also add little when acting in conjunction with all other variables preceding them.

The first discriminant function derived in the analysis of wanted completed fertility 1 is identical to that derived in the earlier analysis of expected family size. In this case, however, the dimension of age-attitude-religious activity holds a greater relative importance in explaining wanted completed fertility 1 than it did in explaining expected family size. The second function, in this case, represents age-relative income-education-childbearing motivation. Explaining approximately as much, in terms of relative percentage of overall eigenvalue, as the second function derived in the previous analysis, this function is less closely representative of economic concerns. The third function derived represents direct costs of childbearing-egalitarianism-years worked. This dimension adds relatively little to the other two by way of explanatory power.

From Table 6.27, it may be seen that virtually the same discriminating variables appear for the analysis of wanted completed fertility 2 as appeared for wanted completed fertility 1. The present analysis contains the addition of subjective feelings of financial success. Although the first four discriminating variables in this list are the same, in the same sequence, as those found for wanted completed fertility 1, it is of interest that the variable measuring relative

Table 6.27 Summary table of discriminant function analysis and standardized discriminant coefficients for wanted completed fertility 2 (6 categories) with selected background variables, economic variables and sociological variables taken together

Variables entered	F to enter	Wilks' lambda	Rao's V	Change in Rao's V	Significance of change
Cohort	16.64	.86	83.31	83.31	.000
Education	5.90	.82	113.18	29.87	.000
Childbearing	4.50	.78	136.01	22.83	.000
Years worked	3.52	.76	155.08	19.08	.002
Relative income	3.33	.73	173.50	18.42	.002
Post-sec. support	4.37	.70	196.37	22.87	.000
Ownership	2.19	.69	208.74	12.37	.030
Egal. attitudes	2.05	.67	220.12	11.38	.044
Large families	2.46	.66	234.25	14.12	.015
Religiosity	1.52	.65	243.14	8.90	.113
Financial success	1.34	.64	250.37	7.22	.204

Standardized discriminant function coefficients

	Fn 1		Fn 2		Fn 3
Cohort	.64	Education	-.56	Post-sec. support	-.62
Large families	-.28	Childbearing	-.41	Financial success	-.39
Religiosity	-.22	Relative income	.47	Childbearing	.51
		Cohort	.46	Years worked	.36
Eigenvalue	.233		.156		.064
Relative percentage	48.47		32.36		13.37
Chi-square	230.242		121.626		46.646
Df	55.		40.		27.
Significance	.000		.000		.011

preferences for consumer durables, ownership of high status items, falls in priority from being fourth in the first analysis (Table 6.25), to fifth in the second analysis (Table 6.26), to seventh in the present analysis. The ordering of most of the middle-level discriminating variables differs for wanted completed fertility 2. The relative position of the attitudinal variable, tolerance of large families, is elevated but this variable still adds little to the change in Rao's V.

The standardized discriminant function coefficients, appearing at the bottom of Table 6.27, show that the first and second functions in this analysis are virtually identical to the first and second functions derived in the wanted completed fertility 1 analysis. In this case, however, the relative importance of the first function is less than it was for wanted completed fertility 1 but greater than it was for expected family size. The third function reaching the acceptable level of statistical significance represents direct childbearing costs-financial success-childbearing motivation-years worked. This function explains more of the variance in wanted completed fertility 2 than did the comparable function in the analysis of wanted completed fertility 1.

Turning now to the analyses of each dependent variable (6 groups) with only economic and sociological variables in the discriminant model, it is seen in Table 6.28 that for expected family size, the relative impact of background variables is such that the list of discriminating variables in the restricted analysis is virtually identical to that in the unrestricted analysis reported in Table 6.25. The relative positions of the variables remain unchanged as well. Economic variables seem to dominate in this analysis. With the exception of the fairly

Table 6.28 Summary table of discriminant function analysis and standardized discriminant coefficients for expected family size (6 categories) with selected economic variables and sociological variables taken together

Variables entered	F to enter	Wilks' lambda	Rao's V	Change in Rao's V	Significance of change
Cohort	19.95'	.84	99.88	99.88	.000
Education	5.31	.80	126.79	26.91	.000
Childbearing	4.24	.77	148.44	21.66	.001
Ownership	4.02	.74	169.68	21.23	.001
Years worked	2.95	.72	186.00	16.32	.006
Relative income	2.67	.70	200.81	14.81	.011
Post-sec. support	3.78	.68	220.71	19.90	.001
Egal. attitudes	2.15	.66	232.76	12.06	.034
Financial success	1.93	.65	242.88	10.11	.072
Large families	2.38	.63	256.85	13.97	.016

Standardized discriminant function coefficients

Fn 1		Fn 2		Fn 3	
Cohort	.78	Education	-.53	Post-sec. support	-.62
Large families	-.30	Childbearing	-.44	Financial success	-.39
		Relative income	.42	Childbearing	.42
				Years worked	.33

	Fn 1	Fn 2	Fn 3
Eigenvalue	.240	.163	.062
Relative percentage	48.53	32.96	12.48
Chi-square	235.743	124.435	46.290
Df	50.	36.	24.
Signifcnance	.000	.000	.004

sizeable amount of change in Rao's V attributable to the addition of childbearing motivation and the small amount due to the addition of financial success, economic variables tend to contribute more to changes in Rao's V than do sociological.

Once again, in this restricted analysis, a total of three statistically significant discriminant functions are derived. The first constitutes largely an age dimension, accounting for approximately 48 per cent of the overall eigenvalue. Attitude toward large families is also part of this function but the contribution of this variable relative to that of cohort is small. The second function, which explains a similar amount of variance as the second function in the unconstrained analysis, is comprised of education-childbearing motivation-relative income. Interestingly, cohort and tolerance of large families, important contributors to this function in the earlier analysis of expected family size, do not emerge here. The third function, explaining slightly less of the variance than this function in the previous analysis, represents an almost pure economic dimension including direct and indirect costs of childbearing, feelings of financial success and childbearing motivation.

The list of discriminating variables to emerge in the restricted analysis of wanted completed fertility 1 in Table 6.29 is almost identical to that for expected family size. Two pairs of variables reverse positions, years worked and ownership, egalitarian attitudes and post-secondary support and the variable financial success drops out. With the deletion of religiosity, the only background variable to appear as a discriminating variable other than cohort in the earlier analysis

Table 6.29 Summary table of discriminant function analysis and standardized discriminant coefficients for wanted completed fertility 1 (6 categories) with selected economic variables and sociological variables taken together

Variables entered	F to enter	Wilks' lambda	Rao's V	Change in Rao's V	Significance of change
Cohort	16.42	.87	82.18	82.18	.000
Education	5.57	.82	110.39	28.21	.000
Childbearing	3.83	.79	130.08	19.69	.001
Years worked	4.36	.76	153.66	23.58	.000
Ownership	3.19	.74	170.87	17.21	.004
Relative income	2.32	.72	183.66	12.79	.025
Egal. attitudes	2.60	.70	197.86	14.20	.014
Post-sec. support	3.38	.68	216.30	18.45	.002
Large families	2.15	.67	228.13	11.82	.037

Standardized discriminant function coefficients

	Fn 1		Fn 2		Fn 3
Cohort	-.63	Education	-.55	Post-sec support	-.62
Large families	.22	Childbearing	-.45	Egal. attitudes	-.35
		Cohort	.54	Years worked	.48
		Relative income	.40		
Eigenvalue	.219		.143		.047
Relative percentage	50.45		33.16		10.93
Chi-square	210.942		107.138		36.637
Df	45.		32.		21.
Significance	.000		.000		.019

of wanted completed fertility 1, the patterns in the present restricted analysis and that reported earlier (Table 6.26) are identical. Clearly, as was found for expected family size, background variables appear to play a limited role in explaining wanted births. Once again, concluding solely on the basis of the list of discriminating variables to emerge, economic variables seem to dominate.

The first two discriminant functions in the restricted analysis of wanted completed fertility 1 are virtually the same as those derived for expected family size. In the present analysis, however, cohort is added to the dimension defined by the second function. The first function here accounts for a greater proportion of the overall eigenvalue than in the previous analysis. The third function is similar to that derived for expected family size in Table 6.27 but financial success and childbearing motivation are replaced by egalitarianism.

Table 6.30 parallels Tables 6.28 and 6.29 in an analysis of wanted completed fertility 2 (6 groups) confined to economic and sociological variables. The relative unimportance of background variables is underlined again as the list of discriminating variables remains virtually unchanged from the earlier analysis summarized in Table 6.27. The relative dominance of economic variables is also apparent in this analysis. Function 1 derived in the present analysis is the same as that derived for the other two dependent variables. The second function is identical to that derived for wanted completed fertility 1. The last function, explaining slightly more of the variance than was explained by the same function in the expected family size analysis, is identical

Table 6.30 Summary table of discriminant function analysis and standardized discriminant coefficients for wanted completed fertility 2 (6 categories) with selected economic variables and sociological variables taken together

Variables entered	F to enter	Wilks' lambda	Rao's V	Change in Rao's V	Significance of change
Cohort	16.64	.86	83.31	83.31	.000
Education	5.90	.82	113.18	29.87	.000
Childbearing	4.50	.78	136.01	22.83	.000
Years worked	3.52	.76	155.08	19.08	.002
Relative income	3.33	.73	173.50	18.42	.002
Post-sec. support	4.37	.70	196.37	22.87	.000
Ownership	2.19	.69	208.74	12.37	.030
Egal. attitudes	2.05	.67	220.12	11.38	.044
Large families	2.46	.66	234.25	14.13	.015
Financial success	1.35	.65	241.48	7.23	.204

Standardized discriminant function coefficients

Fn 1		Fn 2		Fn 3	
Cohort	.71	Education	-.57	Post-sec. support	-.62
Large families	-.30	Childbearing	-.42	Financial success	-.39
		Relative income	.47	Childbearing	.52
		Cohort	.42	Years worked	.37

	Fn 1	Fn 2	Fn 3
Eigenvalue	.221	.155	.064
Relative percentage	47.59	33.44	13.84
Chi-square	222.844	119.361	44.541
Df	50.	36.	24.
Significance	.000	.000	.007

to the third function derived in Table 6.28 for expected family size.

Prior to undertaking the second part of the discriminant analysis, analysis with only three categories for each dependent variable, some limited general comments on the above analysis seem warranted. It seems fair to conclude, on the basis of discriminant analysis done so far, that background variables have limited power to discriminate among family size categories. Comparisons of the discriminating power of economic and social variables seem, at first glance, to point toward the greater power of economic variables to discriminate among family size categories. This seems true for two reasons: (1) economic variables simply outweigh sociological variables in lists of useful discriminating variables; and (2) economic variables generally contribute a greater amount to increasing discriminant power of variables found to be of use in discrimination than do sociological variables. If these conclusions are valid, it seems somewhat surprising that the first discriminant function, in each analysis, is dominated by cohort with no contribution from any economic variable. Even the second function in these many analyses is comprised of both sociological and economic dimensions, in which economic concerns, if dominant at all, are only slightly so.

The last empirical analysis to be undertaken in the thesis directly parallels that described above. In this instance, the challenge is to ascertain the relative impact of the three sets of variables on family size once family size preferences are made sensitive to the normative range of fertility. In the analyses which follow, all three measures of family size are recoded to indicate levels below (0-1),

within (2-4) and above (5+) the normative range of fertility. As before, stepwise discriminant analysis is performed with each set of variables separately. Results of this analysis appear in Tables 6.31 to 6.33. Variables found to be important in discriminating among the three categories of family size are subjected to further analysis in Tables 6.34 to 6.36 where all variables act together and in Tables 6.37 to 6.39 where only economic and sociological variables act.

In Table 6.31, it is seen that, as before, the best single discriminating variable, discriminating among three categories of expected family size, for background and sociological variables is cohort. Unlike in the previous analysis, however, the best discriminating variable among economic variables, including cohort, is not cohort but the standardized measure of preference for consumer durables, ownership of high status items. The elevation of this variable from sixth rank (as in Table 6.22) to first rank, after expected family size is coded with respect to the normative range of fertility, is particularly striking. In other respects this list of discriminating variables compares reasonably well with the earlier analysis. Differences appearing in Table 6.31 include insertion of two additional variables, nativity and religion, above residence in youth in the analysis of background variables; a decline in the relative importance of income in the economic analysis with a consequent reordering of several economic variables in terms of discriminating power and a reversal in the relative ranks of tolerance of large families and childbearing motivation; and a dropping out of female role orientation in the sociological variables analysis.

Table 6.31 Summary table of discriminant function analysis for expected family size (3 categories)* and each of the following sets of variables separately: background variables and cohort, economic variables and cohort, and sociological variables and cohort

Variables entered	F to enter	Wilks' lambda	Rao's V	Change in Rao's V	Significance of change
Background					
Cohort	26.69	.90	53.44	53.44	.000
Education	7.15	.87	67.80	14.36	.001
Religiosity	2.71	.86	73.43	5.62	.060
Nativity	1.54	.86	76.77	3.35	.188
Religion	1.03	.86	79.04	2.26	.322
Residence in youth	1.41	.85	82.02	2.98	.225
Economic					
Ownership	11.10	.95	22.25	22.25	.000
Cohort	19.00	.88	60.44	38.20	.000
Education	6.78	.85	74.74	14.30	.001
Years worked	4.65	.84	84.85	10.11	.006
Post-sec. support	8.57	.81	103.86	19.01	.000
Relative income	4.44	.79	113.60	9.74	.008
Financial success	1.66	.78	117.39	3.79	.150
Sociological					
Cohort	30.98	.92	62.06	62.06	.000
Large families	10.51	.90	84.61	22.54	.000
Childbearing	2.61	.89	89.90	5.30	.071
Egal. attitudes	3.66	.88	97.61	7.71	.021

* In Tables 6.31 through 6.39, all three dependent variables (expected family size, wanted completed fertility 1 and wanted completed fertility 2) are coded into three categories as follows: 0-1, 2-4, 5+. The intention is to indicate fertility below, within and above the normative range.

The analysis reported in Table 6.31 for expected family size is paralleled in Table 6.32 for wanted completed fertility 1. As before, cohort emerges as the most important single variable in discriminating among categories of wanted completed fertility 1 for the background variables analysis and for the sociological variables analysis. In the separate analysis of economic variables, however, ownership of status items once more emerges as the important discriminating variable. As was true in Table 6.31, the change in Rao's V due to the introduction of cohort into the analysis, acting with ownership, is greater than the change introduced by ownership acting alone. The difference in discriminating variables in Table 6.32 compared to Table 6.23, in which wanted completed fertility 1 was coded into six categories, are the same as those reported for expected family size above. Table 6.33 virtually repeats the patterns found for the other two dependent variables for wanted completed fertility 2.

Tables 6.34 through 6.36 provide, in summary, results of discriminant analyses performed with only those variables found to be of use in Tables 6.31 through 6.33 for expected family size, wanted completed fertility 1 and wanted completed fertility 2 respectively. Variables appearing to have discriminating power differ on the three tables but some striking findings apply to all three analyses. First, for all three dependent variables, when coded into three categories, the single best discriminating variable is ownership of high status items. This economic index of preference for consumer goods is followed by cohort in the analyses for expected family size and wanted completed

Table 6.32 Summary table of discriminant function analysis for wanted completed fertility 1 (3 categories) and each of the following sets of variables separately: background variables and cohort, economic variables and cohort, and sociological variables and cohort

Variables entered	F to enter	Wilks' lambda	Rao's V	Change in Rao's V	Significance of change
Background					
Cohort	21.57	.92	43.17	43.17	.000
Education	7.52	.89	58.25	15.08	.001
Religiosity	2.61	.88	63.64	5.39	.068
Nativity	2.09	.87	68.15	4.51	.105
Residence in youth	1.22	.87	70.71	2.56	.278
Religion	1.15	.86	73.18	2.47	.291
Economic					
Ownership	9.62	.96	19.27	19.27	.000
Cohort	17.27	.89	53.96	34.69	.000
Education	5.32	.87	65.16	11.19	.004
Post-sec. support	7.70	.84	81.95	16.79	.000
Years worked	3.00	.83	88.55	6.60	.037
Relative income	3.40	.82	95.86	7.31	.026
Financial success	1.44	.81	99.14	3.28	.194
Sociological					
Cohort	22.96	.94	46.00	46.00	.000
Large families	9.70	.92	66.39	20.39	.000
Childbearing	2.31	.91	71.07	4.68	.096
Egal. attitudes	5.12	.90	81.97	10.90	.004
Female role	1.50	.89	85.06	3.09	.214

Table 6.33 Summary table of discriminant function analysis for wanted completed fertility 2 (3 categories) and each of the following sets of variables separately: background variables and cohort, economic variables and cohort, and sociological variables and cohort

Variables entered	F to enter	Wilks' lambda	Rao's V	Change in Rao's V	Significance of change
Background					
Cohort	21.83	.92	43.69	43.69	.000
Education	10.16	.88	64.12	20.43	.000
Religion	1.57	.87	67.43	3.31	.191
Religiosity	2.37	.87	73.40	4.97	.083
Nativity	1.40	.86	75.38	2.98	.225
Residence in youth	1.21	.86	77.97	2.59	.274
Economic					
Ownership	9.08	.96	18.20	18.20	.000
Education	9.59	.92	37.96	19.76	.000
Cohort	15.41	.86	69.26	31.29	.000
Relative income	6.66	.84	83.55	14.29	.001
Post-sec. support	8.94	.81	103.14	19.59	.000
Years worked	2.95	.80	109.76	6.63	.036
Financial success	2.34	.79	115.15	5.38	.068
Sociological					
Cohort	26.46	.93	53.01	53.01	.000
Large families	8.90	.91	71.99	18.98	.000
Childbearing	1.67	.91	75.34	3.35	.187
Egal. attitudes	2.49	.90	80.60	5.25	.072

Table 6.34 Summary table of discriminant function analysis and standardized discriminant coefficients for expected family size (3 categories) with selected background variables, economic variables and sociological variables taken together

Variables entered	F to enter	Wilks' lambda	Rao's V	Change in Rao's V	Significance of change
Ownership	12.47	.96	24.96	24.96	.000
Cohort	22.47	.88	70.03	45.07	.000
Education	6.90	.86	84.54	14.51	.001
Post-sec. support	10.16	.83	106.72	22.18	.000
Relative income	5.05	.81	117.60	10.88	.004
Years worked	3.88	.80	126.21	8.61	.014
Childbearing	3.27	.79	133.37	7.16	.028
Egal. attitudes	3.52	.78	141.41	8.04	.018
Large families	1.57	.77	145.06	3.65	.161

Standardized discriminant function coefficients

Fn 1		Fn 2	
Post-sec. support	-.50	Cohort	.65
Cohort	-.44	Relative income	.40
Large families	.21	Education	-.43
		Childbearing	-.32
		Ownership	-.31

	Fn 1	Fn 2
Eigenvalue	.153	.121
Relative percentage	55.90	44.10
Chi-square	134.846	59.951
Df	18.	8.
Significance	.000	.000

Table 6.35 Summary table of discriminant function analysis and standardized discriminant coefficients for wanted completed fertility 1 (3 categories) with selected background variables, economic variables and sociological variables taken together

Variables entered	F to enter	Wilks' lambda	Rao's V	Change in Rao's V	Significance of change
Ownership	10.63	.96	21.29	21.29	.000
Cohort	17.75	.90	56.90	35.61	.000
Education	6.52	.88	70.59	13.70	.001
Post-sec. support	7.74	.85	87.41	16.81	.000
Relative income	4.33	.84	96.54	9.13	.010
Years worked	2.18	.83	101.30	4.76	.092
Egal. attitudes	5.53	.82	113.78	12.48	.002
Childbearing	2.40	.81	118.87	5.09	.079

Standardized discriminant function coefficients

	Fn 1		Fn 2	
	Post-sec. support	.48	Cohort	-.67
	Egal. attitudes	.43	Relative income	-.43
	Cohort	.33	Education	.42
	Ownership	.33	Childbearing	.34
	Relative income	-.01		
Eigenvalue		.139		.086
Relative percentage		61.86		38.14
Chi-square		111.643		43.228
Df		16.		7.
Significance		.000		.000

Table 6.36 Summary table of discriminant function analysis and standardized discriminant coefficients for wanted completed fertility 2 (3 categories) with selected background variables, economic variables and sociological variables taken together

Variables entered	F to enter	Wilks' lambda	Rao's V	Change in Rao's V	Significance of change
Ownership	9.91	.96	19.84	19.84	.000
Education	9.08	.93	38.51	18.68	.000
Cohort	16.23	.87	71.35	32.84	.000
Relative income	7.18	.85	86.69	15.34	.000
Post-sec. support	10.45	.82	109.28	22.59	.000
Childbearing	4.11	.80	118.30	9.02	.011
Years worked	2.20	.80	123.22	4.93	.085
Religiosity	2.04	.79	127.83	4.61	.100
Egal. attitudes	2.35	.78	133.18	5.35	.069
Large families	2.11	.78	138.04	4.86	.088
Residence in youth	1.82	.77	142.28	4.24	.120
Financial success	1.30	.77	145.38	3.10	.213

Standardized discriminant function coefficients

Fn 1		Fn 2	
Post-sec. support	-.47	Education	-.56
Cohort	-.46	Ownership	-.33
Large families	.25	Cohort	.52
Religiosity	.24	Relative income	.47

	Fn 1	Fn 2
Eigenvalue	.160	.124
Relative percentage	56.27	43.73
Chi-square	134.342	59.272
Df	24.	11.
Significance	.000	.000

fertility 1 but by education, with cohort in third rank, for wanted completed fertility 2. Second, the negligible discriminating power of background variables for all three family size preference measures is underscored in these analyses. Only religiosity and education (which is also an economic variable) emerge as discriminating variables in Tables 6.34 and 6.35. In Table 6.36, in the analysis of wanted completed fertility 2, residence in youth also appears. Third, the salience of economic variables in discriminating power is more pronounced in these analyses than in the earlier reported six-category analyses.

Only two discriminant functions are derived in Tables 6.34 through 6.36. In the analysis of expected family size, the first function represents direct costs of childbearing-age-preference for consumer durables. This function is of considerable importance in explaining expected family size, capturing almost 57 per cent of the overall eigenvalue. The second derived function includes age-relative income-education-childbearing motivation. This function, too, is responsible for no small amount of the variance in expected family size. Table 6.35 reveals that the second discriminant function for wanted completed fertility 1 is identical to that derived for expected family size in Table 6.34. The first function derived for wanted completed fertility 1 substitutes egalitarianism for age but retains direct costs of child-bearing and preference for consumer durables. The first function derived for wanted completed fertility 2, reported in Table 6.36, is a composite of the first functions for the other two dependent variables consisting essentially of direct costs of childbearing-age. The second

function in this analysis substitutes preference for consumer durables for childbearing motivation.

It could be concluded that for expected family size and wanted completed fertility 1 and 2, economic variables play a critical role, not only in terms of numbers and ranks of discriminating variables, as was found in the earlier analysis but also in terms of the discriminant functions. For expected family size and wanted completed fertility 1 at least, the two functions derived seem to dichotomize into basic economic choices, direct costs and consumption preferences, and "softer" economic concerns such as opportunity costs and relative income position. This dichotomy is less clear in the case of wanted completed fertility 2.

Tables 6.37 through 6.39 present redone discriminant analyses for each dependent variable restricted to economic and sociological variables. As was found in the previously reported analyses, the lists of discriminating variables for each measure of family size preference are virtually identical to those reported earlier when background variables were included. Even the discriminant functions derived closely resemble those derived in Tables 6.34 through 6.36 with only minor variations.

In concluding the discussion of discriminant analysis findings with the dependent variables coded into three categories, it would seem that the findings reported for the six category analysis are underscored. That is, (1) background variables have very limited power to discriminate among categories of family size; (2) economic variables show considerable power in discriminating among family size preference categories, greater

Table 6.37 Summary table of discriminant function analysis and standardized discriminant coefficients for expected family size (3 categories) with selected economic variables and sociological variables taken together

Variables entered	F to enter	Wilks' lambda	Rao's V	Change in Rao's V	Significance of change
Ownership	12.47	.96	24.96	24.96	.000
Cohort	22.47	.88	70.03	45.07	.000
Education	6.90	.86	85.54	14.51	.001
Post-sec. support	10.16	.83	106.72	22.18	.000
Relative income	5.05	.81	117.60	10.83	.004
Years worked	3.88	.80	126.21	8.61	.014
Childbearing	3.27	.79	133.37	7.16	.028
Egal. attitudes	3.52	.78	141.41	8.04	.018
Religiosity	1.34	.77	144.52	3.11	.211
Large families	1.52	.77	148.05	3.53	.171

Standardized discriminant function coefficients

	Fn 1		Fn 2	
	Post-sec. support	-.49	Cohort	.69
	Cohort	-.37	Relative income	.40
	Ownership	-.30	Education	-.41
	Large families	.19	Childbearing	-.32
Eigenvalue		.158		.121
Relative percentage		56.51		43.49
Chi-square		137.291		60.260
Df		20.		9.
Significance		.000		.000

Table 6.38 Summary table of discriminant function analysis and standardized discriminant coefficients for wanted completed fertility 1 (3 categories) with selected economic variables and sociological variables taken together

Variables entered	F to enter	Wilks' lambda	Rao's V	Change in Rao's V	Significance of change
Ownership	10.63	.96	21.29	21.29	.000
Cohort	17.75	.90	56.90	35.61	.000
Education	6.52	.88	70.59	13.70	.001
Post-sec. support	7.74	.85	87.41	16.81	.000
Relative income	4.33	.84	96.54	9.13	.010
Years worked	2.18	.83	101.30	4.76	.092
Egal. attitudes	5.53	.82	113.78	12.48	.002
Childbearing	2.40	.81	118.87	5.09	.079
Religiosity	2.28	.80	124.11	5.24	.073

Standardized discriminant function coefficients

	Fn 1		Fn 2	
	Post-sec. support	-.47	Cohort	-.71
	Egal attitudes	-.42	Relative income	-.42
	Ownership	-.34	Education	.40
	Religiosity	.24	Childbearing	.33
Eigenvalue		.147		.087
Relative percentage		62.89		37.11
Chi-square		116.120		43.839
Df		18.		8.
Significance		.000		.000

Table 6.39 Summary table of discriminant function analysis and standardized discriminant coefficients for wanted completed fertility 2 (3 categories) with selected economic variables and sociological variables taken together

Variables entered	F to enter	Wilks' lambda	Rao's V	Change in Rao's V	Significance of change
Ownership	10.52	.96	21.06	21.06	.000
Education	10.73	.92	43.15	22.09	.000
Cohort	17.57	.87	78.76	35.61	.000
Relative income	7.53	.84	94.81	16.05	.000
Post-sec. support	8.88	.81	114.27	19.46	.000
Childbearing	3.48	.80	121.84	7.57	.023
Years worked	2.12	.80	126.59	4.75	.093
Egal. attitudes	3.13	.79	133.73	7.14	.028
Financial success	1.79	.78	137.91	4.19	.123
Large families	1.33	.78	140.98	3.07	.215

Standardized discriminant function coefficients

	Fn 1		Fn 2	
	Cohort	-.53	Education	-.56
	Post-sec. support	-.44	Ownership	-.33
	Large families	.18	Cohort	.51
			Relative income	.48
Eigenvalue		.154		.115
Relative percentage		57.23		42.77
Chi-square		130.996		56.590
Df		20.		9.
Significance		.000		.000

power than sociological variables, which have greater power than background variables. Some striking additional findings may be added to this list as a result of the second set of discriminant analyses. First, the salience of economic variables in explanatory power is greater once the normative range of fertility is considered in devising groups of family size preferences. This is apparent in two ways: (1) the derived discriminant functions contain large economic components; and (2) an economic variable intended to measure relative preference for consumer durables emerges as the single most powerful discriminating variable, greater than cohort in discriminating power. Second, the dimensions which are indicated by the derived discriminant functions in this analysis suggest not only that economic variables are critical in determination of family size but that economic considerations group into two distinguishable dimensions: (1) basic economic choices or hard economic pressures and (2) softer economic concerns which may be mediated by social concerns, including norms and values.

This analysis clearly indicates very little support for the hypothesis under consideration here. Extra-familial and individualistic role preferences and values do not seem to be more important determinants of expected family size and wanted completed fertility than economic considerations.

This Chapter set out to test an adapted sociological utilities model which essentially holds that social roles and values, viewed in the context of utilities, are powerful predictors of family size. Some limited support is found for the model in that values surrounding

acceptability of large families are found to be of consequence in predicting family size, as self-defined role preferences within certain cohorts. These variables, however, are generally not superior in explanatory power to cohort. The exception to this, of course, occurs in the regression analyses where no sociological variables are found to have a major impact but cohort does not reach statistical significance. Other variables found to be influential at various points in the analysis include egalitarian attitudes and sex ratio preferences in children.

Some mixed evidence is found with respect to the major hypothesis under consideration here. The results of the regression analysis suggest, although not strongly, that role preferences are somewhat more important determinants of family size preferences among more recent cohorts than among earlier cohorts. Given the lack of complete consistency in the pattern of wanted fertility by cohort as well as the lack of real consistency across cohorts on role preferences, however, this conclusion must be interpreted cautiously. Some indications were found that, if a sociological utilities model has explanatory possibility, such possibility may be greatest among non-Protestants, non-Catholics.

The findings produced from a series of discriminant analyses aimed toward discerning the relative impact of background, economic and sociological variables on family size led to rejection of the hypothesis that economic variables are of less consequence than sociological variables in determining family size. These analyses lend clear support

to the conclusions that background variables are of limited utility in explaining completed family size, that sociological variables are of less import than economic variables in such explanation, and that cohort membership and economic considerations are the critical determinants of completed fertility.

CHAPTER 7

SUMMARY AND CONCLUSIONS

7.1 Overview Of Thesis Problem

This thesis has sought to examine and explain intercohort differentials in completed family size in a sample of Edmonton women. Examination of these differentials has depended upon comparative analysis of expected and wanted completed fertility of "equivalent birth cohorts", a blend of actual birth and actual marriage cohorts. These comparative analyses have been undertaken in such a way as to control for various potential explanatory variables separately and then together. The explanatory variables cluster around three explanatory structures which form the organization of the thesis and define the central hypotheses. These three frameworks include the traditional structural or normative approach, the economic utilities approach and the sociological utilities approach.

Following separate examinations of intercohort differentials couched in the operationalized terms of the above frameworks, each explanatory approach is tested by means of a single wide-ranging hypothesis:

1. There has been a downward revision in wanted completed family size and in family size norms with younger cohorts indicating smaller expected completed family size, smaller desired families and smaller family size ideals than older cohorts;

2. Younger cohorts indicate preferences for consumer goods and economic rewards which are competitive with childbearing to a greater degree than older cohorts;

3. Younger cohorts reveal role preferences and values which are extra-familial and individualistic and therefore competitive with childbearing to a greater degree than older cohorts.

The last hypothesis to be tested involves a comparative analysis of the relative explanatory potential of the economic utilities approach and the sociological utilities approach.

4. These extra-familial and individualistic role preferences and values are more important determinants of expected completed family size than economic considerations.

The basic impetus for the thesis derives from the observed dearth of knowledge on fertility behaviour of cohorts, particularly in Western Canada. Further incentive is provided by the not uncontested estimate, mentioned in Chapter 1, that change in family size accounts for a major part of the recent Canadian fertility decline while change in childbearing age pattern accounts for less. Quite apparently it appeared that little was known about a very important component of fertility, a component of importance in understanding not only the dynamics of fertility-related behaviour but also changes in such behaviour over time.

Attempts to explain any found differentials in cohort fertility expectations were spurred by three basic observations, discussed in Chapter 2. First, telescoping of fertility expectations and preferences has rendered the normative approach to explaining differentials increasingly inadequate. Second, completed family size is, at present, more the result of a "control orientation" than a "fate" orientation. Third, as fertility becomes more and more of a controlled outcome, the context of the decision including competing social and economic choices seems increasingly relevant to that outcome. In light of these themes, a comparative study of the explanatory factors involved in cohort fertility preferences, both from a macro- and a micro-analytical viewpoint seemed necessary and important to the understanding of fertility change.

The data under analysis in this thesis are specific to Edmonton, Alberta. They are taken from the Growth of Alberta Families Study (GAFS), a fertility survey based on interviews conducted during the period from November 1973 to February 1974. Women between the ages of 18 and 54 of all marital status were interviewed, by trained interviewers, in a sample stratified by ethnic group.

7.2 Summary of Approach And Major Findings

The general approach employed in the thesis is to first establish intercohort differentials in family size preferences and wanted completed fertility. This is done in Chapter 4. Intercohort differentials are then examined in light of the three explanatory

perspectives outlined above. This comprises the remainder of Chapter 4, Chapter 5 and most of Chapter 6. The analysis involves use of several techniques to ascertain whether and to what degree the variables contained in each of the explanatory perspectives can be held responsible for observed differences in family size preferences and expectations. The first and most predominantly used technique is multiple classification analysis. Attempts are made to control for differences among cohorts on the variables under consideration, to see whether intercohort differences disappear once specific factors are controlled. This is done first for each variable separately and then for all variables in the explanatory framework of interest acting together. The second technique employed is that of multiple regression analysis. For each explanatory framework, those variables which are measured at least on an ordinal scale are submitted as independent variables to a multiple regression model applied to each cohort separately. The intent is to examine the various effects, including direction of influence, in different cohorts comparing similarities and differences.

By means of these controls, adjustments and comparisons of regression coefficients, it is possible to determine whether intercohort fertility differentials are upheld in light of the potential explanatory variables. In addition, those variables which are of importance in explaining differentials either in addition to or instead of cohort emerge from these analyses. Following use of MCA and multiple regression, consistently applied to each set of potential

explanatory variables in turn, the relative power of the three explanatory perspectives to distinguish among categories of expected and wanted completed fertility is examined by means of discriminant function analysis.

The initial analysis (of normative fertility) entails use of five dependent variables: ideal, desired and expected family size and wanted completed fertility 1 and 2. Later analyses are restricted to only the last three variables by the nature of the explanatory perspectives. Ideal family size is based on the classical question, "What do you think is the ideal number of children for the average Canadian family today?" Desired family size is derived from responses to two questions: (1) "If you could choose exactly the number of children to have altogether in your lifetime, how many boys and how many girls would you choose? (2) "What do you think is the desirable number of children for people in your social and economic circumstances?" Expected family size is computed by adding additional expected births, based on some fifteen questions including future expectations, age, pregnancy status, and fecundity impairment, to actual current births.

Both measures of wanted completed fertility are attempts to rid the expected family size variable of past errors and to focus more specifically on demand for children. The first measure is based on responses to questions on each pregnancy as to whether that child was wanted. Inconsistent reports, those attributed to factors other than numbers, are eliminated. As for expected family size, future expected births are then added to wanted current births to produce wanted

completed fertility 1. Wanted completed fertility 2 uses a different set of questions to ascertain whether actual births were wanted. In this case, responses to the following questions are used: (1) "Would you prefer to have borne fewer children? (2) "How many in all would you like to have borne?" Wanted current fertility is taken as the answer to the latter question, provided that this response is less than actual current fertility. Means (and standard deviations) for the first three of these five measures for the total sample are provided in Table 4.1. They are, respectively, 2.65 (0.84), 2.92 (1.35) and 2.71 (1.60). Means for the two measures of wanted completed fertility, appearing in Tables 4.21 and 4.23 are 2.67 and 2.78, respectively.

Prior to examination of the intercohort patterns of normative fertility, interrelationships among family size orientations of Edmonton women are studied and compared with those of women in Toronto and in the United States. Means for ideal, desired and expected family size in Edmonton are all found to be lower than those for Toronto and the U.S. The greatest discrepancy occurs for ideal family size. Modes for all three measures in the Edmonton sample are 2, unlike for Toronto and the U.S. Among Edmonton women, a greater proportion express family size preferences within the 2-4 range than found in Toronto or in the U.S., with a smaller proportion in the 5 or more preference category. Examined by religion, it is found that the largest discrepancy between Catholics and Protestants, in the predicted direction, occurs for expected family size and the smallest for ideal family size. Unlike in the U.S., the general pattern is decreasing

family size preferences with increasing education for both Catholics and non-Catholics. The sole exception to this is desired family size for Catholic women with some university who report higher desires than any other education group.

Examination of the non-random proportions giving the same response to different questions on family size preference reveals a closer relationship between desired and expected family size in Edmonton than in either Toronto or the U.S. The proportion giving the same responses to questions on ideal and desired family size in Edmonton is found to be considerably lower than that found in Toronto, indicating a wider gap between general and personal norms in the Western Canadian city. The vast majority of Edmonton women are found to have a desired family size and an expected family size within the 2-4 range.

Mean family size preferences by cohort are examined in Tables 4.10 and 4.11. Although all three measures show a decline in size of preferred family with cohort, the pattern is consistent only for desired family size. For ideal family size, two cohorts, including the most recent one, show a preference slightly greater than the cohort immediately preceding it. Cohort 2 consistently reports higher fertility expectations than cohort 1. The pattern of wanted completed fertility is also found to decline with cohort although not consistently.

The first explanatory perspective tested in the thesis is the structural or background variable framework. This entails examination

of intercohort differentials once specified "face-sheet" variables are controlled: religion, religiosity, nativity, ethnicity, education, family size of origin and youthful residence. Although the relative importance of cohort is found to vary with measure of family size preference, its importance as an explanatory variable is apparent for all measures. It ranks first in explaining expected family size, and wanted completed fertility 1 and 2, second for desired and third for ideal in the separate analyses. A continuum of variability across the background variables also emerges among the family size measures. Ideal family size is less variable than desired which is less variable than expected or wanted completed family size.

The analysis of background variables acting together, with interactive variables omitted, reveals that cohort is a critical variable in explaining all five measures of family size preference. A tendency, although not consistent, for later cohorts to have smaller family size preferences than earlier cohorts is also found, lending some support to the first hypothesis. Other variables found to be useful in explanation varied by dependent variable but generally include family size or origin, religion, religiosity and in the combined variable analysis, cohort-family size or origin, cohort-religion and religion-religiosity.

The multiple regression analysis of background variables including cohort by religion groups finds that education is an important explanatory variable for Protestants but not for Catholics. For ideal family size for Catholics, family size of origin and cohort

are found to be most influential. Essential variables influencing desired family size of Protestants include religiosity and education, confirming the earlier MCA findings. For Catholics, religiosity, nativity and family size of origin emerge as important. For expected family size and both measures of wanted completed fertility, education emerges as influential in the regression analysis for Protestants while cohort remains most important for Catholics. The results of the regression analysis in terms of overall variance explained lend fairly strong support to the contention that the structural approach is of limited utility in explaining contemporary fertility differentials.

The analysis of the effects of structural variables on intercohort fertility differentials suggests support for the hypothesis positing downward revision in family size norms. Once background variables are controlled, cohort retains its value as an explanatory variable. To a large degree, these analyses reveal that fertility aspirations and preferences are a function of the size of the woman's family of origin as well as her cohort membership. Lastly, these analyses seem to show that although intercohort variability in family size preference may be partly explained in terms of structural variables, the overall explanatory potential of a traditional structural perspective is limited. The magnitude and variability across cohorts of variance explained by background variables confirms the limitations of this approach.

Chapter 5 examines the role of economic variables in explaining intercohort differences in expected and wanted completed family size with an adapted and operationalized version of the economic utilities model. Simply stated, the economic model claims that fertility decisions are made on the basis of relative preferences for children compared to other consumer goods, direct and indirect costs of childbearing and the potential parents' desired standard of living. The dependent variables are restricted in the economic analysis to those preferences involving "choices" rather than normative concerns to better reflect the orientation of the model. The independent variables employed in the analysis include relative income position within cohort, subjective feelings of financial success, ownership of high status items standardized for income and current fertility, proportion of years respondent has worked, respondent's education, extent of post-secondary support for children and respondent's implied work years lost through childbearing.

In the separate analyses, variables accounting for most of the variance in expected family size and wanted completed fertility 1 and 2 include ownership of status items, cohort and relative income position in varying orders. For wanted completed fertility 2, education appears as a variable of importance as well. Also from the separate analyses, it is found that cohort, when paired with each economic variable in turn, generally shows the greater influence on each of the family size choice measures. After adjustment for each economic variable in turn, the general pattern is decreasing family size

preference by cohort but this is not a consistent linear decline.

Patterns in expected and wanted completed fertility across categories of economic variables, except for a few variables like education and years respondent has worked, do not follow the clear patterns predicted by the economic model. No discernible relationship emerges between relative income position and any of the three measures of fertility preference. For example, those with relative income positions above the mean indicated expected family size and wanted completed fertility 1 and 2 close to the mean. Low feelings of financial success generally are related to higher fertility aspirations. Ownership of high status items (consumer durables) is negatively related to fertility expectations. Very low ownership is related to high fertility expectations and high wanted completed fertility but "normal" ownership is related to higher fertility expectations than "low" or "high" ownership. Extent of post-secondary support once again bears no clear relationship to fertility aspirations. Implied work years lost through childbearing is found to have a direct relationship to expected family size and wanted completed fertility 1 but for wanted completed fertility 2 those respondents with lower numbers of work years lost indicate higher fertility.

Analysis of economic variables acting together with cohort, with omission of interactive variables, financial success, years worked and post-secondary support, reveals that cohort is the preeminent variable in explaining expected family size and wanted completed fertility 1. For wanted completed fertility 2, however, the position of cohort drops

to third with ownership of high status items and implied work years lost above it. These two variables follow cohort in importance in explaining the first two dependent variables. When cohort is omitted from the analysis of expected family size and wanted completed fertility 2, relative income position emerges as the most important explanatory variable followed by proportion of years worked and ownership of high status items. For the analysis of wanted completed fertility 1, the patterns of interaction required that implied work years lost as well as cohort be omitted. The results are that the same variables emerge as important but the order of years worked and relative income position are reversed.

Clearly in the analysis of economic variables, cohort emerges as an important explanatory variable along with variables basic to the economic utilities model such as preference for consumer durables and relative income position. The relationship between cohort and the dependent fertility variables, however, once again does not emerge as clearly linear. Although some variables in the economic utilities model are found to have a clear bearing on the fertility variables, the patterns that emerge are not always patterns predicted by the model. In the analysis with all non-interactive variables in the model including cohort, preference for consumer durables emerges as a basic explanatory variable for all three dependent variables. Once cohort is omitted, relative income position becomes important for two of the three dependent variables. Implied work years lost also emerges as having some impact. The MCA findings seem to suggest that

there is some support for the explanatory potential of the economic utilities model, even though the evidence is somewhat mixed.

Unlike in the MCA findings summarized above, the regression analysis of economic variables of all three dependent variables finds that husband's income has little effect, except once cohort is added to the analysis for Protestants. Even in this instance, however, husband's income is secondary to preference for consumer durables and cohort in influencing fertility preferences. The power of cohort to explain differential fertility expectations is significant for all major religious groups but its importance is greater for Catholics than for Protestants. Preference for consumer durables and education exert a fairly powerful influence on Protestant fertility expectations. Direct costs of childbearing do not emerge as significant determinants of family size in this analysis. The economic utilities model seems to have greater capacity to explain Protestant fertility preferences, measured by all three dependent variables than Catholic, as indicated by the R^2 produced in the regression analyses.

The pattern of influence of economic variables by cohort is not completely clear-cut but it is suggestive of several conclusions. Some evidence is found to support the notion that preference for consumer durables is a more important determinant of fertility aspirations among more recent cohorts than among earlier cohorts. It is also found that proportion of years respondent has spent in the labour force is more influential among older cohorts than among younger ones. The R^2 results by cohort, however, are generally such that no

clear conclusions about the capacity of the economic utilities model to explain cohort fertility expectations can be drawn. Although some clear differences in impact of particular economic variables across cohorts are found, support for the hypothesis that younger cohorts indicate preference for economic rewards which are competitive with childbearing is mixed. Support, however, is found for the hypothesis that younger cohorts indicate relative preferences for consumer goods to a greater degree than older cohorts. The magnitude of variance explained in the regression analysis within each cohort as well as within each religious group and overall suggests that the economic utilities model, although somewhat variable in its capacity to explain fertility expectations, clearly has greater explanatory potential than the structural approach.

Chapter 6 focusses on testing an operationalized version of what is referred to as the "sociological utilities model". As in Chapter 5, analysis is restricted to expected family size and wanted completed fertility 1 and 2 to be more consistent with the theoretical specifications of choice essential to the model. Basically, the sociological utilities perspective places social variables into a utilities context, paralleling that of economic variables in the earlier model. The approach, like the economic model, presupposes the existence of a conscious decision to have or not to have children and the presence of competing alternative activities, including competing role preferences, for expending resources including time and energy. In this analysis, independent variables are indices based on series of

questions concerning role preferences and attitudes. A total of seven indices are computed, of which only six are used in the analyses: traditional female role orientation, mother role orientation, traditional childbearing motivation, egalitarian attitudes, concern with population growth, tolerance of large families and traditional sex ratio preferences in children.

In the analyses of each operationalized sociological variable acting separately with cohort, those variables which emerge as useful in explaining variables in fertility expectations and wanted completed fertility include cohort, tolerance of large families and egalitarian attitudes. Cohort, when paired with each of the sociological variables separately, shows the greater influence on each of the three dependent variables. Following adjustment for each of the sociological variables in turn, the cohort pattern for all three variables is one of decline but, as before, this decline is not clearly linear.

Patterns in the three measures of family size across sociological variables differ only slightly from one another. A clear inverse relationship emerges between egalitarian attitudes and anticipated family size. Those respondents with high ratings on egalitarian attitudes report smaller family size choices. Direct relationships are found between fertility preferences and mother role orientation and tolerance of large families for all three measures of family size. For expected family size and wanted completed fertility 1, traditional childbearing motivation is positively related. For wanted completed fertility 2, direct relationships are found for traditional

female role orientation and traditional sex ratio preferences while childbearing motivation is found to have identical values of wanted completed fertility 2 in the medium and high ranks but lower fertility in the low rank. It seems surprising that it is for only one measure of family size preference that a clear direct relationship emerges for traditional female role orientation. For sex ratio preferences in children, respondents who want equal numbers of boys and girls have the lowest anticipated family size followed by those with a relative preference for girls. The highest wanted family sizes are reported by those with relative preferences for male children.

Analysis of all variables in the sociological utilities model acting together with cohort, with traditional childbearing motivation omitted, underscores the findings of the separate analyses. Cohort, tolerance of large families and egalitarian attitudes emerge in analyses of all three dependent variables in varying orders. For expected family size and wanted completed fertility 1, cohort is the variable of first importance, tied with tolerance in the latter case. Cohort follows tolerance for wanted completed fertility 2. With cohort and egalitarian attitudes omitted from the analyses of expected family size and wanted completed fertility 1, tolerance of large families, traditional sex ratio preferences and traditional female role orientation emerge as explanatory variables. With the patterns of interaction requiring omission of only cohort in the analysis of wanted completed fertility 2, tolerance, egalitarian attitudes and traditional sex preferences in children are found important.

The regression analyses of the sociological utilities perspective varies somewhat from the results of the MCA. In the overall regressions, tolerance of large families and egalitarianism preferences do not emerge as having primary importance, although they do have impact within specific cohorts. In the analyses in which cohort is an independent variable, somewhat surprisingly, it does not reach statistical significance. The regression findings point out a general trend for role orientations and egalitarian attitudes to be somewhat more important in determining fertility expectations among more recent cohorts than among older cohorts. Paralleling this, the impact of traditional childbearing motivation tends to decline across cohorts. On the basis of this it could be concluded that the notion that role preference is competitive with childbearing receives limited support and is circumscribed by cohort membership as well as attitudinal variables.

In the separate regression analyses by religious group with cohort added as an independent variable, it is found that mother role orientation and female role orientation have significant effects for all three dependent variables. For Catholics, these two variables assume somewhat lesser importance and are accompanied by egalitarian attitudes and sex ratio preferences. For others, childbearing motivation assumes primary importance. It is found, in contrast, to the findings for the economic model that for the sociological utilities model, almost equal amounts of variance are explained for Protestants and Catholics but considerably more for non-Protestants, non-Catholics.

The overall amount of variance explained by the sociological utilities model, when compared to the previously examined economic model, remains small suggesting only very limited explanatory potential of this model as it is defined here. In addition, considerable variation across cohorts for this model is apparent. The obvious conclusion is that only limited support exists for the hypothesis that younger cohorts reveal role preferences and values that are extra-familial and individualistic and therefore competitive with childbearing to a greater extent than older cohorts. Taken together, sociological variables are not more successful in explaining family size preference differentials than are economic variables.

The last empirical section of the thesis attempts two- and three-part comparisons of the explanatory possibilities present in the three frameworks considered separately up to this point. By means of discriminant function analysis, predetermined groups of family size preferences are submitted to those variables found to be of use in explaining variation in family size by stepwise discriminant analysis in the separate analyses of each of the three frameworks. The objective is, as in all discriminant function analysis, to weight and combine variables in such a way as to maximally distinguish among groups. Two sets of groups of family size choices are chosen for use in this analysis: (1) six categories of expected family size and wanted completed fertility 1 and 2: 0, 1, 2, 3, 4, 5+; and (2) three categories defined as below, within and above the normative

range of fertility: 0-1, 2-4, 5+. Those variables found to be useful in discriminating among these categories in separate stepwise analysis of each set of variables are submitted to subsequent analysis first with structural, economic and sociological variables acting together and then with only the latter two sets in the analysis for each set of family size preferences.

Results of the discriminant function analysis with six categories and those with three are found similar in some important ways. First, in both analyses of all sets of useful variables acting together, background or structural variables are found to have limited discriminating power. Second, in both analyses, economic variables exceed both background variables and sociological variables in discriminating capability. Third, of the discriminant functions derived in these analyses, cohort tends to dominate in the first function with economic variables combined with sociological variables dominating in the second. These findings emerge in the analysis of all three measures of family size.

The three-category analysis brings to the fore some additional findings with respect to the relative importance of each set of explanatory variables as well as underscoring the findings of the earlier six-category analysis. First, economic variables in the analysis of normative and non-normative fertility become even more critical in their predominance over background and sociological variables than in the six-category analysis. Second, the economic variable measuring relative preference for consumer durables, standardized for income and

current fertility, emerges as the central variable of discriminating power, having greater power than cohort. Third, the pattern of variables found to have discriminatory power seems to fall into two categories, those of basic economic constraints such as direct costs and preference for goods and those "softer" economic concerns such as relative income position and opportunity costs, with the latter being mediated to a greater degree by social considerations.

The hypothesis under consideration in this analysis is: Extra-familial and individualistic role preferences and values are more important determinants of expected family size and wanted completed fertility than economic considerations. The findings from discriminant function analysis reported above clearly do not support this hypothesis. Sociological variables, as defined here, are found to be of far less import in explaining variation in family size preferences than economic considerations and cohort membership.

The general conclusion which may be drawn from the thesis is that intercohort differentials in expected family size and wanted completed fertility as well as in ideal and desired family size are quite robust and remain sizeable after controlling for a wide variety of factors of proven theoretical relevance. When all other variables or subsets considered in the thesis are acting simultaneously with cohort, it is cohort which emerges as the foremost variable explaining variation in fertility expectations and wanted completed family size in all but rare instances. Even on those occasions when economic variables exert powerful discriminatory influence, cohort is near the

top in explanatory power. Intercohort differentials in ultimate anticipated family size are substantial and largely resistant to explanations alternative to that of a clear and substantial, although not always linear, decline in family size preference over time.

7.3 Implications Of The Thesis And Broader Relevance

This study has provided a closer examination of the pattern and nature of intercohort differentials in the demand for children among women than has so far been undertaken in Canada. The findings point rather strongly to a substantial downward revision in anticipated ultimate fertility. If expressed fertility expectations are to be taken seriously as indications of actual intentions, then it would seem that smaller completed families could be safely predicted for Edmonton women for some time in the future.

Projection of the future course of fertility inevitably involves consideration of many imponderables. This analysis, however, is suggestive of certain features of short-run fertility patterns. It seems clear from the findings presented here that the tendency is toward ultimate family sizes for younger cohorts of around 2.4 children, rather than the 3.6-3.9 wanted by elder cohorts. This seems to indicate a fairly wide-ranging reappraisal of what constitutes modern family size. Clearly, the vision of an average family size close to replacement is plausible and realistic. In fact, this pattern appears to be established in the ultimate choices of young Edmonton women. Of course, this does not mean that Canada's population is likely to

become stationary within the generation or even the immediate future. Age patterns of childbearing are critical determinants in this regard. As well, the age structure of the population is such that period fertility is likely to increase as baby boom girls enter and complete their childbearing, even if average ultimate family size declines.

In the immediate future, an increase in the impact of family size change on period total fertility could be anticipated. The decline in cohort fertility found in this study is substantial. Even with a slight rise in period fertility over the next decade, it would appear that the effect of changing family size preferences on period total fertility could show a rise or at least not decline very noticeably. It may be in the not too distant future that period rates again represent an overestimation of cohort fertility in relation to actual reproductive behaviour, as was true in Canada prior to 1961.

The observed downward revision of ultimate expected family size across cohorts in conjunction with the configuration of variables which is found to impinge on demand for children seems to suggest that modern procreative behaviour requires a revised explanatory framework. Further evidence for this is provided by the failure of the structural framework to explain much of the intercohort differentials in wanted fertility. That economic considerations, and to a lesser extent role preferences and social values, explain intercohort differentials to a greater degree than the more traditional variables such as religion, religiosity, ethnicity, education and family size of origin seems to lead to the conclusion that couples are making childbearing decisions

in the context of an assessment of their economic and social circumstances and preferences. Although evidence is not clearly in support of economic and social constraints impinging on fertility to a greater degree among younger cohorts, there are some indications that this is the case. It should be emphasized, however, that much of the analysis, particularly of role preferences and social values, rests on "soft" data. In no way can these findings, which are often mixed, be taken as definitive. The importance of the findings of this thesis seem to be more in the arena of underscoring the fairly well established observation that fertility aspirations and behaviours are in a state of change with family size being revised downward and that the traditional explanatory frameworks appear no longer sufficient to explain fertility behaviour.

Some support emerges from this research for the Bumpass notion of the advent of a "new fertility regime". Ultimate fertility appears to be less a function of group membership and more of a deliberate choice fostered by the unique historical circumstances in which the couple find themselves as well as their relative preferences for alternatives to childbearing. The choice gestalt outlined by Bumpass seems fairly clear among Edmonton women in their confident statements about their future family size. It may be that a utilities context of competing alternatives for time, energy and financial resources is appropriate only under the choice gestalt characterizing the new fertility regime. Until the emergence of a context in which procreative goals are actually realizable, a utilities approach may in effect profane the sacred and the inevitable.

The striking finding that relative preference for consumer durables is the central variable discriminating between normative and non-normative family size choices, more important even than cohort membership, suggests a strong sensitivity on behalf of Edmonton women to the choices inherent in childbearing. That this was found in the total Edmonton sample, rather than a sub-sample restricted of effective contraceptors as was true for the Toronto study by Chaudhury (1973), provides a further indication that Edmonton women are operating under the rules of a new fertility regime. It will be recalled from earlier discussion that a central tenet of the Bumpass theory is that the rules of procreation are fundamentally transformed so that significant proportions of the population can expect complete fertility control and realization of wanted family size. This, according to Bumpass, is accompanied by an erosion of social rationalizations of unwanted fertility. That women, irrespective of contraceptive usage, want smaller families and that relative preferences for alternative durables affect this choice might indicate that diffusion of effective contraception is such that the majority of women view procreation as a choice.

That traditional structural variables, except for cohort, were found to explain less of the variability in family size expectations than other sets of variables seems to lend further support to the thesis that the rules of fertility are changing and that new explanations are required. The finding that little else explains as much as cohort membership testifies to the strength of the movement toward smaller

families over time. That the normative range of fertility is more clearly circumscribed by 2-4 preferences than in earlier studies adds further support to the well-known convergence notion. That Edmonton women see a closer proximity of expected and desired family size than their counterparts in earlier studies might suggest that their responses to questions on family size expectations reflect their confidence that their goals are realizable. If this is so, the analysis undertaken here gains credibility on two counts. First, the reliability of stated birth expectations might be enhanced. Second, the appropriateness of explanatory perspectives involving use of the concept of choice could be underscored.

The salience of cohort membership throughout this analysis as an important variable explaining differential fertility expectations seems to necessitate some reflection on the meaning of cohort. That this variable consistently emerges as critical while other group membership variables do so largely to a lesser degree seems particularly striking. Cohort membership, quite apart from its clear-cut theoretical definition and use by demographers, is a notion which is at once both intimate to everyday experience and ill understood. Clearly the time at which we were born or share some experience has clear and direct implications for life patterns. This is well understood by high school adolescents who clearly demarcate peer groups by age of year in school. It is very well recognized by union members who value years in the trade. Journalists and university administrators have long recognized a generation gap which presumably makes manifest

some crucial understandings of the ways of the world dependent largely on experiencing historical events at a particular life cycle stage. University graduates now hopelessly searching for teaching positions are fully aware of the meaning of cohort to their futures. Parents of youth who are embracing neo-Naziism know the meaning of having collectively experienced unique historical events.

At the same time, professional students of social behaviour typically are ill at ease when called upon to explain behaviours or attitudes in terms of cohort membership. This could be attributed to a variety of reasons. One might be that for many behaviours and attitudes of interest to the sociologist, commonly experienced history assumes less importance than the multitude of other possible explanatory variables. That this is not the case for fertility behaviour is immanently apparent from the findings of this research. It may be that other types of behaviours could be rendered more understable by cohort analysis. The commonalities between fertility expectations and other social behaviours have yet to be fully explored. It would seem that the implications of cohort analysis tend to remain somewhat opaque to social researchers. This is a perplexing problem, if indeed it can be said to exist, because on the one hand, it could indicate the inadequacy of the social researcher when faced with social change of a small order or alternatively, it could reflect a major gap in interpretation of the mechanisms by which collectively experienced events at particular life cycle stages are transformed

into attitudes and behaviours characteristic of cohorts. A third alternative, of a possibly endless list, might be the universal problem of studying social behaviour: that is, expanding the scope of explanation from what appears to be idiosyncratic or individualistic behaviour to the macro-level of social forces. Perhaps cohort has been cross-cut by the examination of other structural cleavages. It would seem that these questions are worthy of further study and careful consideration by sociologists.

Something of the social meaning of cohort membership has just recently begun to be understood by demographers (Krotki, 1968; Krotki, 1975). This work thus far has basically focussed on the social implications, largely for opportunity structures, of fluxes and flows in cohort size. Krotki (1975) underlines the importance of cohort size for employability, promotion, competition for housing, education, welfare, attitudes towards women and minorities and political movements. Clearly, world views and life chances differ greatly by the size of one's cohort and the relative sizes of those preceding and following it. The harder-to-get-at implications of common experiences at particular life stages, quite apart from cohort size, have yet to be fully examined by social scientists.

In terms of the analyses reported here, it is not much of a surprise to learn that the unique historical circumstances in which a couple lives and bears children has a profound impact on their demand for children. Turchi recognizes this as a basic reality when he states, "the fertility decision made by the couple and the relation of

this decision to other decisions made by couples cannot be divorced from the explicit historical situation in which the couple completes its life cycle" (Turchi, 1975:24). The primacy of relative preference for consumer durables as a determinant of family size expectations among "baby boom" cohorts seems worthy of particular comment here as an obvious example of the way in which cohort might affect fertility behaviour. It might be that members of large cohorts, being those who have experienced the most keen competition on all fronts, are most susceptible to the competition involved between childbearing and other activities. The unusual life circumstances of these cohorts might have sensitized them to a utilities approach to living. They therefore could be unique in their willingness to seize upon the advantages offered by the new fertility regime and consequently, be particularly enchanted by the cost-benefit mode of thinking about fertility. If this argument has merit, it could be that the emergence of a new fertility regime and the salience of economic considerations in fertility choices is not the demarcation of a new era but yet another wave of change created by the "big generation" which will pass. Unfortunately for less sensational cohorts, explanations of possible relations of cohort membership to behaviours are less straightforward.

7.4 Suggestions For Future Research

Several alternative or supplemental approaches to the present problem might have proven fruitful. Scanzoni's (1975) careful analysis by subgroups, for example, might have been paralleled here. Testing

his conclusion that among never-married university students sex role norms are better indicators of lowered birth intentions than background variables in a western Canadian context where sex role norms could differ from those in the urban eastern U.S. might produce interesting comparative results. Further exploration of the effect of religion on family size expectations when religion is combined with other parameters such as ethnicity might be revealing since it is known that English-origin Protestants differ substantially from French-origin Catholics in fertility behaviour. In light of some of the findings reported here, it would be useful to test the relative effect of economic considerations on the fertility expectations of these two ethnic-religious groups.

In order to test the degree to which stated family size expectations are a function of media attention to ZPG and like issues and hence less reliable indicators of actual expectations, an analysis of differential family size expectations within categories of media exposure would be warranted. The GAFS question on media exposure, unfortunately, is so limited as to be of little use in testing such a hypothesis.

A totally different approach which essentially defines a completely new thesis would have been to turn the analysis over. Rather than using family size choices as the dependent variables, economic and sociological choices could have been seen as the dependent variables that are affected by fertility choices. This, of course, would have been a largely non-demographic thesis but one that might

have yielded some interesting insights into life style choices and their relation to childbearing.

Proceeding to a wider scope, this last proposed analysis as well as the present analysis could have been greatly enhanced by the presence of more detailed questions in the field instrument on preferences. Clearly defined questions intended to ascertain relative preference for economic goods, for social goods, for children and then for one type as compared to another, would have permitted more extensive and intensive analyses of preferences. Relative preferences for parenthood as well as childbearing could be determined in future research. This expansion of the questionnaire also could entail enhanced estimates of costs of children both in terms of time and money and how these costs and their projections change over time.

In line with improved questions on preference structures, more complete measures of family size preferences are also recommended for future research of this type. It does not seem a sufficient or appropriate test of a micro-decision model, whether economic or sociological to simply ask the traditional questions on family size. Rather, there is a need for a more complete assessment of fertility intentions including a hierarchy of relative preferences and an inventory of the respondents reactions to alternative outcomes. This allows some assessment of psychological distance between fertility choices.

Lastly, the decision-making context of fertility cannot be fully understood without solid grounding in the dynamics of the decision itself, the husband-wife interaction. Any study which purports to understand fertility on the basis of responses to questions put only to the woman must fall at least partially short of its goal of complete understanding. These approaches might lead to improved knowledge of fertility behaviour in future by regarding it not in terms of aggregate structures but as an ongoing micro-level process which is constantly experiencing change.

ENDNOTES

Chapter 1

1) Although the English version of the Henripin monograph was not published until 1972, the French version under the title, Tendances et Facteurs de la fecondite au Canada appeared in print in 1968.

2) See Morah, B.C. 1976. Timing of births in Edmonton: Patterns and consequences. Unpublished Ph.D. thesis, University of Alberta.

Chapter 2

1) Leibenstein (1974) has raised serious questions, since the publication of his original theory, about the ultimate utility of the economic model of fertility.

Chapter 3

1) The acronym (GAFS) adapted for the Alberta study is unfortunate only because it is identical to the acronym used in the earlier American fertility studies.

2) 1971 Census ethnic distributions were not yet available at the time that the sample was drawn.

3) The weighted proportion of the GAFS sample which is British is some 4 standard deviations away from the Census proportion, once Irish are added to the total.

4) The weighted proportions that are German and Ukrainian are 1.5 standard deviations from the Census proportions. For French and Other Eastern Europeans the comparable figure is 2.5 standard deviations while for Other Western Europeans it is 3.5.

5) The cohorts created for the purposes of this analysis are not synthetic in the life table sense in that they do not truly represent any actual series of groups of persons experiencing a single event together.

Chapter 5

1) In the early nineteenth century, Gossen formulated a "pleasure principle" which is a precursor to modern cost-benefit thinking applied to fertility behaviour. Simply he said, "A person striving for the greatest amount of pleasant sensations stops the gratification of a desire where a continuation in its indulgence would mean less pleasure to him than the gratification of another need, which need he would have to renounce otherwise" (Thomlinson, 1976:229-230 quoted from Roderich von Ungern-Sternberg. 1931. The Causes of the Decline in Birth Rates within the European Sphere of Civilization. Eugenics Research Association Monograph Series 4: 33-34).

Gossen's "law" was modified in 1909 (the 1931 publication of it represents its first appearance in English) by Brentano. "A person discontinues procreation of children when an increase in the number of children gives him less satisfaction than other pleasures of life which would otherwise not be accessible to him" (Thomlinson, 1976:230 quoted from Lujo Brentano. 1910. The Doctrines of Malthus and the Increase in Population During the Last Decades. Economic Journal 20:371-393).

REFERENCE LIST

Alberta. City of Edmonton. 1974. Report of the Local Board of Health, 1974.

Alberta. Province of Alberta. 1972. Vital Statistics. Edmonton: Queen's Printer.

Andrews, Frank M., James N. Morgan and John A. Sonquist. 1967. Multiple Classification Regression Analysis: A Report on a Computer Program for Multiple Regression Using Categorical Predictors. Ann Arbor: Survey Research Centre, University of Michigan.

Andrews, Frank M., James N. Morgan, John A. Sonquist and Laura Klem. 1973. Multiple Classification Analysis: A Report on a Computer Program for Multiple Regression Using Categorical Predictors. Ann Arbor: Survey Research Centre, University of Michigan.

Balakrishnan, T.R., J.F. Kantner, and J.D. Allingham. 1975. Fertility and Family Planning in a Canadian Metropolis. Montreal: McGill-Queen's University Press.

Banks, J.A. 1954. Prosperity and Parenthood. London: Rongledge.

Beaujot, Rod. 1974. Ethnic Variations in Fertility in Edmonton. Unpublished Ph.D. thesis, University of Alberta.

Beaver, Steven E. 1975. Demographic Transition Theory Reinterpreted. Lexington, Massachusetts: Lexington Books.

Becker, Gary S. 1960. An Economic Analysis of Fertility. Pp. 209-240 in Demographic and Economic Change in Developed Countries: A Conference of the Universities. Princeton: Princeton University Press.

Becker, Gary S. 1965. A Theory of Allocation of Time. Economic Journal 75: 439-517.

Ben-Porath, Yoram. 1973. Economic Analysis of Fertility in Israel: Point and Counterpoint. Journal of Political Economy Supplement: S202-S233.

Bernhardt, Eva. 1972. Fertility and Economic Status: Some Recent Findings on Differentials in Sweden. Population Studies 26(2): 175-184.

Blake, Judith. 1965. Demographic Science and the Redirection of Population Policy. Journal of Chronic Diseases 18: 1811-1200.

Blake, Judith. 1966. The Americanization of Catholic Reproductive Ideals. Population Studies 20(1): 27-43.

Blake, Judith. 1968. Are Babies Consumer Durables? A Critique of the Economic Theory of Reproductive Motivation. Population Studies 22(1): 5-25.

Blake, Judith. 1974. Can we Believe Recent Data on Birth Expectations in the U.S.? Demography 2(1): 25-44.

Boyd, Monica. 1974. Research Note: Family Size Ideals of Canadians: A Methodological Note. Canadian Review of Sociology and Anthropology 2(4): 360-370.

Bracher, Michael. 1975. A Stochastic Model of Family Planning. Unpublished M.A. thesis, University of Alberta.

Bumpass, Larry. 1973. Is Low Fertility Here to Stay? Family Planning Perspectives 5: 67-69.

Bumpass, Larry. 1975. Comment on J. Blake's "Can We Believe Recent Data on Birth Expectations in the U.S.?" Demography 12(1): 155-156.

Bumpass, Larry and Charles F. Westoff. 1969. The Prediction of Completed Fertility. Demography 6(4): 445-454.

Bumpass, Larry and Charles E. Westoff. 1970. The Later Years of Childbearing. Princeton: Princeton University Press.

Cacoullos, Theophilos (Ed.). 1973. Discriminant Analysis and Applications. New York: Academic Press.

Canada. Dominion Bureau of Statistics. 1965. Vital Statistics, 1963. Ottawa: Queen's Printer.

Canada. Statistics Canada. 1973. Vital Statistics, 1971. Ottawa: Queen's Printer.

Canada. Statistics Canada. 1974a. Canada Yearbook, 1973. Ottawa: Information Canada.

Canada. Statistics Canada. 1976 . Vital Statistics, 1974.

Carisse, Colette. 1964. Planification des Naissances en Milieu Canadien-Francais. Montreal: Presses de L'universite de Montreal.

Charles, Enid. 1948. The Changing Size of the Family in Canada. Ottawa.

Chaudhury, Rafiqul. 1972. A Multivariate Analysis of Relative Income Relationship to Fertility. Unpublished M.Sc. thesis. Johns Hopkins University.

Chaudhury, Rafiqul. 1973. Relative Income and Fertility. Ph.D. Dissertation, Johns Hopkins University.

Cho, L.J. Wilson, H. Grabill and Donald J. Boque. 1973. Differential Current Fertility in the United States. Chicago: University of Chicago Press.

Clarkson, F.E., S.R. Vogel, I.K. Broverman and D.M. Broverman. 1970. Family Size and Sex Role Stereotypes. Science 168(3930):390-392.

Cooley, W.W. and P.R. Lohnes. 1971. Multivariate Data Analysis. New York: Wiley.

Davis, Kingsley. 1959. The Sociology of Demographic Behaviour. Pp. 309-333 in Merton, Robert (Ed.), Society Today: Problems and Prospects. New York: Basic Books.

Davis, Kingsley. 1963. The Theory of Change and Response in Modern Demographic History. Population Index 29(4): 345-366.

Davis, Kingsley. 1967. Population Policy: Will Current Programs Succeed? Science 158(10): 730-739.

Davis, Kingsley and Judith Blake. 1956. Social Structure and Fertility: An Analytical Framework. Economic Development and Cultural Change 4(2): 221-235.

Darlington, Richard B. 1968. Multiple Regression in Psychological Research and Practice. Psychological Bulletin 69(3): 161-182.

DeTray, Dennis N. 1973. Child Quality and the Demand for Children. Journal of Political Economy Supplement: S70-S95.

Draper, N.R. and H. Smith. 1966. Applied Regression Analysis. New York: John Wiley and Sons.

Duesenberry, S.J. 1960. Comment. Pp. 233-234 in Demographic and Economic Change in Developed Countries. Princeton: Princeton University Press.

Easterlin, Richard A. 1968. Population, Labor Force and Long Swings in Economic Growth. New York: National Bureau of Economic Research.

Easterlin, Richard A. 1969. Towards a Socio-Economic Theory of Fertility: Survey of Recent Research on Economic Factors in American Fertility. Pp. 127-156 in S.J. Behrman, Leslie Corsa and Ronald Freedman (Eds.), Fertility and Family Planning: A World View. Ann Arbor: University of Michigan Press.

Easterlin, Richard A. 1972. Relative Economic Status and the American Fertility Swing. An unpublished working paper.

Easterlin, Richard A. 1973. Relative Income Status and the American Fertility Swing. Pp. 170-223 in Eleanor B. Sheldon (Ed.), Family Economic Behaviour. Philadelphia: J.B. Lippincott.

Eisenbeis, R.A. and R.B. Avery. 1972. Discriminant Analysis and Classification Procedures. Lexington, Mass.: Lexington.

Elahi, Virginia K. 1973. A Family Planning Survey in Halifax, Nova Scotia. Canadian Journal of Public Health 64(4): 515-520.

Fawcett, J.T. (Ed.). 1973. Psychological Perspectives on Population. New York: Basic Books.

Freedman, D. 1963. The Relation of Economic Status to Fertility. American Economic Review 53(3): 416-426.

Freedman, Ronald. 1961-62. The Sociology of Human Fertility: A Trend Report and Bibliography. Current Sociology 10/11: 35-42, 58-62.

Freedman, R. and L. Coombs. 1966. Economic Consideration in Fertility Growth Decision. Population Studies 29(2): 197-222.

Freedman, R., L.C. Coombs and L. Bumpass. 1965. Stability and Change in Expectations about Family Size: A Longitudinal Study. Demography 2(2): 250-275.

Freedman, Ronald, Albert I. Hermalin and Ming-Cheng Chang. 1975. Do Statements about Desired Family Size Predict Fertility? The Case of Taiwan. Demography 12(3): 407-416.

Freedman, Ronald C., Pascal K. Whelpton and Arthur A. Campbell. 1959. Family Planning, Sterility and Population Growth. New York: McGraw-Hill.

George, M.V. and A. Romaniuk. 1971. Patterns and Factors of Fertility Decline in Canada in 1960's. Paper presented at the Sixth Annual Meeting of the Canadian Sociology and Anthropology Association, Memorial University, St. John's.

Germaine, Adrienne. 1975. Status and Roles of Women as Factors in Fertility. Studies in Family Planning 6: 192-200.

Gibbs, J.P. 1965. Norms: The Problem of Definition and Classification. The American Journal of Sociology 70: 586-594.

Goldberg, David. 1958. Family Role Structure and Fertility. Ann Arbor: University of Microfilms.

Goldberg, David. 1960a. Another Look at the Indianopolis Fertility Data. Milbank Memorial Fund Quarterly 38(1): 23-36.

Goldberg, David. 1960b. Some Recent Developments in American Fertility Research. Pp. 137-154 in National Bureau Committee for Economic Research (Ed.). Demographic and Economic Change in Developed Countries: A Conference of the Universities National Bureau Committee for Economic Research. Princeton: Princeton University Press.

Goldberg, David, Harry Sharp and R. Freedman. 1959. The Stability and Reliability of Expected Family Size Data. Milbank Memorial Fund Quarterly 37(4): 369-385.

Goldscheider, Calvin. 1971. Population, Modernization and Social Structure. Boston: Little, Brown and Co.

Grindstaff, Carl. 1975. The Baby Bust: Changes in Fertility Patterns in Canada. Paper presented at the Fertility Session of the Canadian Population Society Meetings, Edmonton, May 1975.

Haas, Paula H. 1972. Maternal Role Incompatibility and Fertility in Latin America. Journal of Social Issues 28: 111-128.

Hauser, P.M. 1967. Family Planning and Population Programs: A Book Review Article. Demography 4(1): 397-414.

Hawthorn, Geoffrey. 1970. The Sociology of Human Fertility. New York: Macmillan.

Henripin, Jacques. 1968. Tendances et Facteurs de la Fécondité au Canada. Ottawa: Queen's Printer.

Henripin, Jacques. 1972. A Fertility Survey in Quebec. Unpublished paper presented at Population Association of America meetings.

Henripin, Jacques. 1973. Fécondité récente et prochaine de la province de Québec. Bulletin de l'Association des Démographes du Québec. 2(1): 118-120.

Henripin, Jacques and Evelyn Lapierre-Adamcyk. 1974. La Fin de la Revanche des Berceaux: Qu'en Pensent les Québécoises. Montreal: Les Presses de l'Université de Montréal.

Henripin, Jacques and Jacques Legare. 1971. Recent Trends in Canadian Fertility. Canadian Review of Sociology and Anthropology 8(2): 106-113.

Hoffman, Lois W. and Frederick Wyatt. 1960. Social Change and Motivations for Having Larger Families: Some Theoretical Considerations. Merrill-Palmer Quarterly 6: 235-244.

Hoffmeyer, H. 1962. The Feminine Role and Motherhood. Athens: World Health Organization Seminar on Mental Health and the Family.

Holmstrom, Lynda Lytle. 1972. The Two-Career Family. London: Schenhman Publishing Co.

Kammeyer, Kenneth. 1966. Birth Order and the Feminine Role Among College Women. American Sociological Review 31: 508-515.

Kayani, A. and P. Krishnan. 1973. Fertility Decline in Canada 1961-1970: An Analysis Through the Life Table Approach. Pp. 302-306 in Proceedings of the Social Statistics Section, American Statistical Association.

Kiser, Clyde V. and P.K. Whelpton. 1953. Resume of the Indianapolis Study of Social and Psychological Factors Affecting Fertility. Population Studies 7: 95-110.

Krishnan, P. and Karol J. Krotki. 1976. Growth of Alberta Families Studies (GAFS): A Report to Health and Welfare Canada on Questionnaires Collected from 1,045 Women of Edmonton in the Winter of 1973-74. Edmonton, Alberta: Population Research Laboratory.

Krotki, Karol J. 1968. Consequences of the Demographic Wave in Western Canada. Pp. 99-110 in B.Y. Card (Ed.). Perspectives on Regions and Regionalism. Edmonton: Western Association of Sociology and Anthropology.

Krotki, Karol J. 1973. Demography. Geopaedia: Encyclopedic Dictionary of Physical, Human and Regional Sciences. Oxford: Pergamon Press.

Krotki, Karol J. 1975. The Social, Economic and Demographic Consequences of the Divergences between the Age Pyramid and the Opportunity Pyramid. International Review of Sociology II Series XI(3): 224-242.

Krotki, Karol J. and Bonnie Fox. 1974. The Randomized Response Technique, the Interview and the Self-Administered Questionnaire: An Empirical Comparison of Fertility Reports. Pp. 367-371 in Proceedings of the Social Statistics Section, American Statistical Association.

Krotki, Karol J. and Susan A. McDaniel. 1975. Three Estimates of Illegal Abortion in Alberta, Canada: Survey, Mail-Back Questionnaire and Randomized Response Technique. Pp. 493-496 in Proceedings of the International Association of Survey Statisticians. Warsaw, Poland.

Krotki, Karol J. and Susan A. McDaniel. 1976. La Technique de Réponse Rendue Aléatoire: Quelques Résultats d'une Étude à Edmonton, Canada. Population et Famille 41(1977-2): 91-119

Kruegel, David L. 1975. Further Comment on J. Blake's "Can We Believe Recent Data on Birth Expectations in the U.S.?". Demography 12(1): 157-161.

Kunz, P. 1965. The Relation of Income and Fertility. Journal of Marriage and the Family 27: 509-513.

Légaré, Jacques. 1972. Highlights of Family Formation in Canada. Paper presented at the Population Association of America meetings.

Leibenstein, Harvey. 1957. Economic Backwardness and Economic Growth: Studies in the Theory of Economic Development. New York: Wiley.

Leibenstein, Harvey. 1974. An Interpretation of the Economic Theory of Fertility: Promising Path or Blind Alley? Journal of Economic Literature 12: 467-469.

Lorimer, F. 1954. Culture and Human Fertility. Zurich: UNESCO.

Malthus, Thomas R., Julian Huxley and Frederick Osborn. 1960. On Population. Toronto: The New American Library.

Marsden, Lorna. 1972. Population Probe: Canada. Toronto: Copp Clark Publishers.

Mauldin, W. Parker. 1964. Application of Survey Techniques to Fertility Studies, Pp. 93-118 in Mindel C. Sheps and Jeanne Clare Ridley (Eds.), Public Health and Population Change. Pittsburgh: University of Pittsburgh Press.

McDaniel, Susan A. 1970. A Study of the Relation Between Female Employment and Fertility in Modern Japan. Unpublished M.A. thesis, Cornell University.

McDaniel, Susan A. and Karol J. Krotki. 1975. Estimates of the Rate of Illegal Abortion and the Effect of Eliminating Therapeutic Abortion: Alberta, 1973-74. Presented at the Meetings of the Western Association of Sociology and Anthropology, Banff, Alberta, 27-30 December, 1975. Canadian Journal of Public Health (in press) 1978.

McKenzie, Richard B. and Gordon Tullock. 1975. The New World of Economics. Georgetown, Ontario: Irwin-Dorsey Limited.

McLaughlin, Steven. 1974. Expected Family Size and Perceived Status Deprivation Among High School Senior Women. Demography 11(1): 57-73.

Michael, Robert T. 1973. Education and the Derived Demand for Children. Journal of Political Economy Supplement: S128-S164.

Mincer, J. 1963. Market Prices, Opportunity Cost and Income Effects. Pp. 63-65 in Measurement in Economic Studies in Mathematical Economics and Econometrics. Stanford: Stanford University Press.

Mishler, Elliot G. and Charles F. Westoff. 1955. A Proposal for Research on Social Psychological Factors Affecting Fertility. Concepts and Hypotheses. Pp. 121-150 in Milbank Memorial Fund (Ed.), Current Research in Human Fertility. New York: Milbank Memorial Fund.

Moen, Elizabeth. 1976. Third World Women, World Population Growth: A Case of Blaming the Victims? Working Paper No. 7, Institute for Social Science Research.

Morgan, James N., J.A. Sirageldin and N. Baerwaldt. 1966. Productive Americans. Ann Arbor, Michigan: Institute for Social Research.

Morgan, James N. and John A. Sonquist. 1963. Problems in the Analysis of Survey Data, and a Proposal. Journal of the American Statistical Association 58: 415-435.

Namboodiri, N. Krishnan. 1970. On the Relation Between Economic Status and Family Size Preferences. Population Studies 24(2): 234.

Namboodiri, N. Krishnan. 1974. Which Couples at Given Parities Expect to Have Additional Births? An Exercise in Discriminant Analysis. Demography 2(1): 45-56.

Okun, Bernard. 1960. Comment. Pp. 235-236 in Demographic and Economic Change in Developed Countries. Princeton: Princeton University Press.

Oppenheimer, Valerie K. 1970. Demographic Influences on Female Employment and the Status of Women. Unpublished paper. Los Angeles: Department of Sociology, University of California.

Petersen, William. 1975. Population. New York: Macmillan Publishing Co., Inc.

Pool, Janet, E. 1975. Female Reproductive Behaviour (Part I): Report on a Study Carried Out in Ottawa, 1972-73. Unpublished paper. Ottawa: Department of Epidemiology and Community Medicine, University of Ottawa.

The Population Council. 1970. A Manual for Surveys of Fertility and Family Planning: Knowledge, Attitudes and Practice. New York: The Population Council.

Ridley, Jeanne Clare. 1968. Demographic Change and the Roles and Status of Women. Annals of the American Academy of Political and Social Science 375: 15-25.

Ryder, Norman. 1959. Fertility. Pp. 400-436 in Philip Hauser and Otis Dudley Duncan (Eds.). The Study of Population. Chicago: University of Chicago Press.

Ryder, Norman B. 1973. A Critique of the National Fertility Study. Demography 10(4): 495-506.

Ryder, Norman B. and Charles F. Westoff. 1971. Reproduction in the United States, 1965. Princeton: Princeton University Press.

Ryder, Norman B. and C.F. Westoff. 1967. The Trend of Expected Parity in the United States: 1955, 1960, 1965. Population Index 33: 153-168.

Ryder, Norman B. and Charles F. Westoff. 1973. Wanted and Unwanted Fertility in the United States: 1965 and 1970. Pp. 467-488 in Charles F. Westoff and Robert Parke, Jr. (Eds.), Demographic and Social Aspects of Population Growth, Vol. I of Commission Research Reports.

Scanzoni, John H. 1975. Sex Roles, Life Styles and Childbearing. New York: The Free Press.

Schultz, Theodore W. (Ed.). 1973. Journal of Political Economy. 82(2), Part 2, entire issue.

Schultz, Theodore W. (Ed.). 1974. Journal of Political Economy 81(2), Part 2, entire issue.

Schultz, Theodore W. (Ed.). 1975. The Economics of the Family: Marriage, Children and Human Capital. Chicago: University of Chicago Press.

Segal, David R. 1973. Status Inconsistency and Party Choice: An Attempt to Replicate. Pp. 249-252 in James E. Curtis and William G. Scott (Eds.). Social Stratification in Canada. Scarborough, Ontario: Prentice-Hall.

Sheldon, Eleanor H. 1973. Family Economic Behaviour: Problems and Prospects. Philadelphia: Lippincott.

Simon, J. 1969. The Effect of Income on Fertility. Population Studies 23(3): 327-341.

Spengler, J.J. and O.D. Duncan (Eds.). 1956. Population Theory and Policy. Glencoe, Illinois: Free Press.

Stinchcombe, A.L. 1968. Constructing Social Theories. New York: Harcourt.

Stycos, J. Mayone and R. Weller. 1967. Female Working Roles and Fertility. Demography 4(2): 210-217.

Sweet, James A. 1970. Family Composition and the Labor Force Activity of American Wives. Demography 7(2): 195-210.

Thomlinson, Ralph. 1976. Population Dynamics: Causes and Consequences of World Demographic Change. (Second edition). New York: Random House.

Turchi, Boone A. 1975. The Demand for Children. Cambridge, Massachusetts: Ballinger Publishing Co.

United States Bureau of the Census. 1972. Birth Expectations and Fertility: June 1972. Current Population Report, Series P-20, No. 240, Sept. 1972. Washington, D.C.: Government Printing Office.

Vance, Rupert B. 1952. Is Theory for Demographers? Social Forces 31(1): 9-13.

Westoff, Charles E. 1956. The Changing Focus of Differential Fertility Research: The Social Mobility Hypothesis. Pp. 400-409 in J.J. Spengler and O.D. Duncan (Eds.). Population Theory and Policy. Glencoe, Illinois: Free Press.

Westoff, Charles F. 1975. The Yield of the Imperfect: The 1970 National Fertility Study. Demography 12(4): 573-580.

Westoff, Charles F., E.G. Mishler, and E.L. Kelly. 1957. Preferences in Size of Family and Eventual Fertility Twenty Years After. American Journal of Sociology 62: 491-497.

Westoff, Charles E., Robert G. Potter, Jr., and Phillip C. Sagi. 1963. The Third Child. Princeton: Princeton University Press.

Westoff, Charles F. and Raymond H. Potvin. 1967. College Women and Fertility Values. Princeton: Princeton University Press.

Whelpton, Pascal K. and Clyde V. Kiser. 1950. Social and Psychological Factors Affecting Fertility. New York: Milbank Memorial Fund.

Whelpton, P.K., A.A. Campbell, and J.E. Patterson. 1966. Fertility and Family Planning in the U.S. Princeton: Princeton University Press.

Williams, J. Allen, Jr., Nicholas Babchuck, and David R. Johnson. 1973. Voluntary Associations and Minority Status: A Comparative Analysis of Anglo, Black and Mexican Americans. American Sociological Review 38(5): 637-646.

Willis, R. 1973. A New Approach to the Economic Theory of Fertility Behaviour. Journal of Political Economy 81(2): 209-230.

Yaukey, David. 1969. On Theorizing About Fertility. The American Sociologist 4: 100-104.

APPENDIX A

CALCULATION OF EXPECTED FAMILY SIZE

The 15 questions used in the calculation are listed below:

Q 1 In what year were you born?

Q 10 What is your present marital status?

Q 29 Are you or have you ever been pregnant?

SKIP TO Q 31 .... Yes 1
No 2

Q 30 Do you want to have children eventually?

SKIP TO Q 105 ... Yes 1
SKIP TO Q 113 ... No 2
SKIP TO Q 113 ... Don't know 3

Q 31 How many children of your own - those that you have actually borne - now live with you in your own household?

Q 32 How many of your children now live somewhere else?

Q 33 How many of your children have died?

Q 70 - Q 72 ARE FOR CURRENTLY PREGNANT

Q 70 Are you hoping for a girl or a boy?

Q 72 How many more children do you want to bear in addition to the one you are now expecting?

Q 82 - Q 91 ARE FOR NOT CURRENTLY PREGNANT

Q 82 Have you had an operation which makes it impossible for you to become a mother in the future?

Q 85 Some women are unable to have a child because they have some physical or medical problem or perhaps because they have reached their change of life. Do you think this may be the case with you?

SKIP TO Q 105 IF NOT CURRENTLY MARRIED OR LIVING WITH SOMEONE.

Q 86 Has your husband/partner ever had an operation which makes it impossible for him to become a father in the future?

Q 89 Do you want to give birth to (a, another) child?

Q 91 How many (more) children would you like to have?

Q 105 If you could now choose exactly the number of children to have altogether in your lifetime, how many girls and how many boys would you choose?

There are ten possible ways in which expected family size is calculated from the answers to the above questions. Only one of these calculations is made for a given respondent. These alternatives are given below in the same order as they are checked in the computer program.

STEPS 1 - 4 ARE SKIPPED IF THE RESPONDENT IS OR HAS EVER BEEN PREGNANT (Q 29)

1. Respondent wants no children eventually (Q 30): expected family size is completed family size (Q 31 - Q 33).

2. Respondent does not know if she wants children eventually (Q 30): expected family size is coded as missing data.

3. Respondent wants children eventually (Q 30) and her year of birth is since 1932 (Q 1): expected family size is taken from Q 105.

4. Respondent wants children eventually (Q 30) and her year of birth is 1932 or earlier (Q 1): expected family size is completed family size (Q 31 - Q 33).

5. Respondent is pregnant (Q 70 is answered): expected family size is one plus completed family size (Q 31 - Q 33) plus additional expected (Q 72).

6. When there is indication that respondent or husband cannot have more children (Q 82, Q 85, Q 86); expected family size is completed family size (Q 31 - Q 33).

7. When marital status (Q 10) is single, separated, widowed or divorced and year of birth is since 1932 (Q 1): expected family size is taken from Q 105.

8. When marital status (Q 10) is single, separated, widowed or divorced and year of birth is 1932 or earlier (Q 1): expected family size is completed family size.

9. When respondent wants no additional children (Q 89): expected family size is completed family size (Q 31 - Q 33).

10. When respondent wants additional children (Q 89): expected family size is completed family size plus additional expected (Q 91).

CALCULATION OF WANTED COMPLETED FERTILITY 1

The following questions are used in developing the measure "wanted completed fertility 1":

Q 31 How many children of your own - those you have actually borne - now live with you in your own household?

Q 32 How many of your children now live somewhere else?

Q 40 Would you have preferred this child 1) earlier 2) later 3) same time, or 4) not at all?

Q 89 Do you want to give birth to (a) another child?

Q 90 How many (more) children would you like to have?

First, the actual current family size is computed for each respondent on the basis of the responses to QQ 31, 32. For each respondent, the number of consistent unwanted births is computed on the basis of "not at all" responses to Q 40. To eliminate or at least minimize the possibility that a child is not wanted for reasons other than numbers reasons (such as marital problems, financial problems, consequent physical, mental or social impairment of children, etc.), only those children "not at all" wanted by the respondent that were not followed by a wanted child are subtracted from the current family size. This is done by sorting the child file for each respondent, totalling the number of unwanted children that were not followed by a child that was either unwanted at that time or wanted. The resulting number is called wanted current fertility.

To compute wanted completed fertility, the number that is expected or wanted by the respondent in the future by QQ 89, 90 is added. This addition is done in accordance with the decision rules set out for calculating expected family size, accounting for fecundity impairment, etc. It is presumed that additional children are all wanted.

This procedure is not without weaknesses. The most obvious weakness is a respondent who claims to have wanted "not at all" her last one or two children but wants additional children. The number of respondents reporting so inconsistently is small and so thought not to affect the overall measure. In most instances, those respondents who want additional children are not experiencing, or at least reporting, existing unwanted children. Respondents who report additional expected children are largely in the situation of incompleted childbearing. The measure of wanted completed fertility 1 allows for computation of a surrogate index of total wanted fertility for women not yet finished childbearing as well as an actual measure for women whose families are complete.

CALCULATION OF WANTED COMPLETED FERTILITY 2

The following questions are used in developing the measure "wanted completed fertility 2":

Q 31 How many children of your own - those you have actually borne - now live with you in your own household?

Q 32 How many of your children now live somewhere else?

Q 89 Do you want to give birth to (a) another child?

Q 90 How many (more) children would you like to have?

Q 96 Would you prefer to have borne fewer children?

Q 97 How many in all would you like to have borne?

If the answer to Q 96 is no, then wanted current fertility is taken to be equal to actual current family size based on QQ 31, 32. If the answer to Q 96 is yes, then wanted current fertility is taken to be the numeric answer to Q 97. In those cases where the answer given to Q 97 is larger than the respondent's actual family size, wanted current fertility is taken to be actual current family size.

Wanted completed fertility 2 is then calculated by adding additional expected, based on QQ 89, 90, according to the decision rules outlined earlier for computing expected family size, to wanted current fertility.

APPENDIX B

DETAILS OF INDICES USED IN CHAPTERS 5 AND 6

CALCULATION OF PROPORTION OF YEARS RESPONDENT HAS WORKED SINCE AGE SIXTEEN

The index is based on the following questions:

Q 1: In what year were you born?

Q 12: I would like to make a list of all the regular jobs that you have held and that have lasted for more than six months. (A list follows of type of job, date begun and left, and whether job was full time or part time).

Proportion of years worked is calculated as years worked (Q12) divided by age minus sixteen years. Coding of the index is as follows: 0, .01-.29, .30-.59, .60-1.0.

CALCULATION OF IMPLIED WORK YEARS LOST THROUGH CHILDBEARING

The index is based on the following questions:

Q 15 Suppose a woman is offered a good job and can arrange to have her children cared for adequately, what age should her youngest child be before she takes the job on a full time basis?

Q 16 What age should her child be before she takes the job on a part-time basis?

Q 109 What do you think is the ideal age for a woman to have her first child?

Q 110 And what is the ideal age for her to have her last child?

Q 111 In your opinion how many years or months should there ideally be between children? (If different times given take average).

Q 114 What do you think is the ideal number of children for the average Canadian family today?

If the response to Q 15 is greater than the response to Q 111 (if youngest child at time mother takes on a full time job needs to be older than the ideal years between children), then full work years lost is calculated as follows: ideal age of mother at birth of last child (Q 110) minus ideal age of mother at birth of first child (Q 109) plus age youngest child needs to be before mother works full time (Q 15).

If the response to Q 15 is not greater than the response to Q 111 (if youngest child does not need to be older than the ideal years between children), then full work years lost is calculated as follows: age youngest child needs to be at time mother takes on a full time job (Q 15) multiplied by ideal number of children in the average Canadian family today (Q 114).

The same procedure is followed using Q 16 for calculating part work years lost.

Total implied work years lost is then calculated as follows: Part work years lost plus the result obtained by subtracting part work years lost from full work years lost divided by two. Coding of this index is: 0-8 years, 9-12 years, 13-18 years, 19 or more years.

CALCULATION OF OWNERSHIP OF HIGH STATUS ITEMS (STANDARDIZED FOR HUSBAND'S INCOME AND ACTUAL FAMILY SIZE)

The index is based on the following questions:

Q 31 How many children of your own - those that you have actually borne - now live with you in your own household?

Q 32 How many of your children now live somewhere else?

Q 33 How many of your own children have died?

Q 175 Here is a card showing amounts of income. Please indicate by number what group would apply to your husband's income before taxes in 1973?

Q 214 Do you have a coloured TV?

Q 215 Do you have a dishwasher?

Q 216 Two or more cars?

Q 217 What is the number of rooms in your home? (excluding bathrooms, clothes closets, pantries, halls and rooms solely used for business purposes).

A variable called "Ownership of high status items" is developed with the following categories (QQ 214, 215, 216, 217):

1: Low: none of these four is owned or used
2: Low medium: one of the four is owned or used
3: High medium: two of the four are owned or used
4: High: three or four of these are owned or used
9: missing data

On the basis of the following categories of husband's income, means are calculated for combinations of actual family size (0 to 6+) and income categories:

1: under $7,000
2: $7,000 - $9,999
3: $10,000 - $14,999
4: $15,000 and over
9: missing data

From responses to QQ 214 - 217 (coded as "ownership of high status items"), the mean for the actual family size category and income category of the respondent is subtracted. The result is ownership of high status items standardized for husband's income and actual family size.

CALCULATION OF RELATIVE INCOME POSITION BASED ON HUSBAND'S 1973 EARNINGS

The index is based on the following questions:

Q 1 In what year were you born?

Q 179 When did you and your present husband or partner start living together?

Q 175 Here is a card showing amounts of income. Please indicate by number what group would apply to your husband's income before taxes in 1973?

Responses to Q 175 were collapsed into the following categories:

1: under $7,000
2: $7,000 - $9,999
3: $10,000 - 14,999
4: $15,000 and over
9: missing data

Based on QQ1 and 179, synthetic cohorts are developed (see section 3.6). For each cohort a mean for husband's 1973 income is computed. Income of husband in 1973 as reported by each respondent is divided by the mean husband's income in 1973 for the cohort of which the respondent is a member. Relative income position is the quotient.

CALCULATION OF RELATIVE INCOME POSITION BASED ON FAMILY'S 1973 EARNINGS

The index is based on the following questions:

Q 1 In what year were you born?

Q 179 When did you and your present husband or partner start living together?

Q 177 Which group would the total income of your family fall into for 1973? (Before taxes)

Responses to Q 177 were collapsed into the following categories:

0: nil
1: under $3,000
2: $3,000 - $4,999
3: $5,000 - $6,999
4: $7,000 - $9,999
5: $10,000 - $14,999
6: $15,000 and over
9: missing data

For each synthetic cohort (based on responses to QQ 1 and 179), a mean family income for 1973 is calculated. Relative income position of the family in 1973 is the ratio of the response to Q 177 to the mean family income for the cohort of which the respondent is a member.

CALCULATION OF PERCEPTION OF FINANCIAL SUCCESS

The index is based on the following questions:

Q 190 Suppose that your husband/partner lost his job tomorrow and neither he nor you could find work for one month. Do you feel that you could manage to pay for all your usual bills for that month out of the family savings?

Q 193 In general what kind of success do you feel you and your husband/partner are having financially?

If the respondent replies that she could not pay the usual bills out of family savings and she judges her family's financial situation to be fair or poor, then she is categorized as having low financial success.

If the respondent says that she could pay a month's bills out of family savings and she views her family's financial situation to be good, she is categorized as having medium financial success.

If the respondent could pay bills for a month out of family savings and she judges her family's financial situation to be very good, she is categorized as having high financial success.

CALCULATION OF EXTENT OF POST-SECONDARY SUPPORT

The index is based on the following questions:

Q 194 Would you (and your partner) be willing to provide the major source of financial support if your child was attending post-secondary education?

Q 195 How much, if any, would you be willing to contribute?

Q 196 How long would you be willing to contribute this support?

If respondent would contribute no support of room, or room and board for up to three years of $500-999 for one or two years or full support for one year, then respondent is coded as low on willingness to support post-secondary education.

If respondent would contribute $1,000-1,999 for three or more years or full support for 2 to 3 years, then she is categorized as medium on this index.

If respondent would contribute $2,000 or more or provide full support for four or more years, she is coded as high on willingness to support post-secondary education.

CALCULATION OF MOTHER ROLE ORIENTATION

The index is based on the following questions:

Q 14 Would you prefer:

to be working now	1
not working	2
no preference?	3

Q 30 Do you want to have children eventually?

Yes	1
No	2
Don't know	3

Q 116 What is your attitude towards couples that decide not to have children?

Understanding	1
Envy	2
No opinion	3
Disapproval	4
Other (often means "shouldn't get married")	5

The following 8 questions are answered on a scale from 1 to 5 ranging from "strongly agree" to "strongly disagree":

Q 199 A pre-school child is likely to suffer if the mother works.

Q 200 A working mother can establish just as warm and secure a relationship with her children of elementary school age as a mother who does not work.

Q 201 It is much better for everyone involved if the man is the achiever outside the home and the woman takes care of the home and family.

Q 203 Women are much happier if they stay at home and take care of their children.

Q 207 If anything serious happened to one of the children while the mother was working, she could never forgive herself.

Q 208 A woman's job should be kept open for her when she is having a baby.

Q 209 You usually find the happiest families are those with a large number of children.

Q 211 There should be free child care centres so that women could take jobs.

The index is developed as follows: If a respondent selects any six or more of the following responses to the above questions, the respondent is categorized as having a <u>low</u> mother role orientation:

Q 14(1), Q 30(2), Q 116(1 or 2), Q 199(4 or 5), Q 200 (1 or 2), Q 201(4 or 5), Q 203(4 or 5), Q 207(4 or 5), Q 208(1 or 2), Q 209(4 or 5), Q 211(1 or 2).

If a respondent selects any six or more of the following responses to these questions, she is categorized as having a <u>high</u> maternal role orientation:

Q 14(2), Q 30(1), Q 116(4 or 5), Q 199(1 or 2), Q 200 (4 or 5), Q 201(1 or 2), Q 203(1 or 2), Q 20y(1 or 2), Q 208(4 or 5), Q 209(1 or 2), Q 211(4 or 5).

If the respondent fails to answer six or more of the above questions in either of two prescribed ways or answered them with codes other than those indicated, she is categorized as having a <u>medium</u> mother role orientation.

CALCULATION OF TRADITIONAL FEMALE ROLE ORIENTATION

This index is based on the following questions:

Q 14 Would you prefer:

to be working now	1
not working	2
no preference	3

Q 113 Who do you feel should decide the number of children a woman will have?

Woman	1
Husband/partner	2
Both	3
Will happen without decision	4
God or fate	5
Other	6
Refusal	8
Don't know	9

Q 139 If a couple decides on sterilization in order to prevent unwanted children, should it be the man or the woman who gets sterilized?

Man	1
Woman	2
Don't know	3
Not applicable	4
Depends on circumstances	5
Doesn't matter	6
Neither	7

The following 10 questions are answered on a scale from 1 to 5, ranging from "strongly agree" to "strongly disagree":

Q 198 A man can make long range plans for his life, but a woman has to take things as they come.

Q 201 It is much better for everyone involved if the man is the achiever outside the home and the woman takes care of the home and family.

Q 203 Women are much happier if they stay at home and take care of their children.

Q 204 Young girls are entitled to as much independence as young boys.

Q 205 Sex seems to exist mainly for the man's pleasure

Q 206 Women should be considered as seriously as men for jobs as executives or politicians.

Q 208 A woman's job should be kept open for her when she is having a baby.

Q 210 Many of those in women's rights organizations today seem to be unhappy misfits.

Q 211 There should be free child care centres so that women could take jobs.

Q 213a Women in authority should have the right to fire men.

The index is developed as follows: If a respondent selects any seven or more of the following responses to the above questions, the respondent is categorized as having a low traditional female role orientation:

Q 14(1), Q 113(1 or 3), Q 139(1 or 5 or 6), Q 198(4 or 5), Q 201(4 or 5), Q 203(4 or 5), Q 204(1 or 2), Q 205 (4 or 5), Q 206(1 or 2), Q 208(1 or 2), Q 210(4 or 5), Q 211(1 or 2), Q 213a(1 or 2).

If a respondent selects any seven or more of the following responses to the above questions, the respondent is categorized as having a high traditional female role orientation.

Q 14(2), Q 113(2 or 4 or 5), Q 139(2 or 7), Q 198(1 or 2), Q 201(1 or 2), Q 203(1 or 2), Q 204(4 or 5), Q 205(1 or 2), Q 206(4 or 5), Q 208(4 or 5), Q 210(1 or 2), Q 211 (4 or 5), Q 213a(4 or 5).

If the respondent does not answer six or more of the above questions in either of the two prescribed ways or answers them with codes other than those indicated, she is categorized as having a medium traditional female role orientation.

CALCULATION OF EGALITARIAN ATTITUDES

The index is based on the following questions:

Q 104 Did you have any discussion at the time of your marriage with your (present/past) husband on the number of children he wanted?

1: yes
2: no
3: can't remember

Q 113 Who do you feel should decide the number of children a woman will have?

1: woman
2: husband/partner
3: both
4: will happen without decision
5: God or fate
6: other
7: refusal
9: don't know

The following questions are answered on a scale from 1 to 5 ranging from "strongly agree" to "strongly disagree":

Q 201 It is much better for everyone involved if the man is the achiever outside the home and the woman takes care of the home and family.

Q 203 Women are much happier if they stay at home and take care of their children.

Q 205 Sex seems to exist mainly for the man's pleasure.

If a respondent selects any three or more of the following responses to the above questions, the respondent is categorized as having a <u>low</u> level of egalitarian attitudes:

Q 104(2), Q 113(1 or 2), Q 201(1 or 2), Q 203(1 or 2), Q 205(1 or 2).

If the respondent selects any three or more of the following responses to these questions, she is categorized as having a <u>high</u> level of egalitarian attitudes:

Q 104(1), Q 113(3), Q 201(4 or 5), Q 203(4 or 5), Q 205(4 or 5).

If the respondent does not answer three or more of these questions in either of the prescribed ways or answers them with codes other than those indicated, she is categorized as having a medium level of egalitarian attitudes.

CALCULATION OF TRADITIONAL SEX PREFERENCES IN CHILDREN

This index is based on the following questions:

Q 102 Did you have any idea about how many children you wanted when you first married?

1: yes
2: no
3: can't remember

Q 103 How many girls and how many boys did you want?

Q 105 If you could now choose exactly the number of children to have altogether in your lifetime, how many boys and how many girls would you choose?

For those answering "yes" to Q 102, responses to Q 103 are used to compute a sex ratio of girls to boys. A similar sex ratio is computed on the basis of responses to Q 105. If, for a respondent, either or both of these sex ratios is less than 1, the respondent is categorized as having a high traditional sex preference. If either or both is greater than 1, the respondent is categorized as having a low traditional sex preference. If neither of these conditions are met (i.e., the sex ratio equals 1), the respondent is categorized as having a medium traditional sex preference.

CALCULATION OF TRADITIONAL CHILDBEARING MOTIVATION

This index is based on the following questions:

Q 112 Do you expect to live with one of your children in your old age?

1: yes
2: no
3: don't know
4: refusal

Q 113 Who do you feel should decide the number of children a woman will have?

1: woman
2: husband/partner
3: both
4: will happen without decision
5: God or fate
6: other
7: refusal
9: don't know

The following questions were answered on a scale from 1 to 5 ranging from "strongly agree" to "strongly disagree":

Q 203 Women are much happier if they stay at home and take care of their children.

Q 209 You usually find the happiest families are those with a large number of children.

If a respondent selects any three or more of the following responses to the above questions, the respondent is categorized as having a low traditional childbearing motivation:

Q 112(2), Q 113(1 or 2 or 3), Q 203(4 or 5), Q 209(4 or 5).

If a respondent selects any three or more of the following responses to these questions, the respondent is categorized as having a high traditional childbearing motivation:

Q 112(1), Q 113(4 or 5 or 6), Q 203(1 or 2), Q 209(1 or 2).

If a respondent does not answer three or more of these questions in either of the prescribed ways or answers them with codes other than those described above, she is categorized as having a medium traditional childbearing motivation.

CALCULATION OF TOLERANCE OF LARGE FAMILIES

The index is based on the following questions:

A 115 How many children would there be in a Canadian family before you would say there are too many?

1: no upper limit, "never too many"
2: 2
3: 3
4: 4
:
8: 8 or more
9: depends on circumstances or don't know

The following question is answered on a scale from 1 to 5 ranging from "strongly agree" to "strongly disagree":

Q 209 You usually find the happiest families are those with a large number of children.

If a respondent selects any one or more of the following responses to the above questions, the respondent is categorized as having a low tolerance of large families:

Q 115(2 or 3 or 4), Q 209(4 or 5)

If a respondent selects any one or more of the following responses to these questions, the respondent is categorized as having a high tolerance of large families:

Q 115(1 or 8), Q 209(1 or 2)

If a respondent fails to answer one or more of these questions in either of the two prescribed ways or answers them with codes other than those indicated, she is categorized as having a medium tolerance of large families.

CALCULATION OF CONCERN WITH POPULATION GROWTH

The index is based on the following questions which are answered on a scale from 1 to 5 ranging from "strongly agree" to "strongly disagree":

Q 209 You usually find the happiest families are those with a large number of children.

Q 212 The world population problem is serious.

If a respondent selects any one or more of the following responses to the above questions, the respondent is categorized as having a low concern with population growth:

Q 209(1 or 2), Q 212(4 or 5)

If a respondent selects any one or more of the following responses to the questions, the respondent is categorized as having a high concern with population growth:

Q 209(4 or 5), Q 212(1 or 2)

If the respondent fails to answer one or more of the above questions in either of the two prescribed ways or answers them with codes other than those indicated, she is categorized as having a medium concern with population growth.

APPENDIX C

SUMMARY TABLES OF ANALYSIS OF VARIANCE FOR CHAPTER 4

Table C.1 Summary table of analysis of variance with cohort and family size of origin. Criterion variable: ideal family size.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	16.807	6	2.801	3.709**	(6/472)
B (Family size of origin)	12.869	11	1.170	1.549!	(11/472)
AB	59.337	55	1.079	1.428*	(55/472)
Error	356.516	472	.755		

** significant at .001
 * significant at .028
 ! not significant

Table C.2 Summary table of analysis of variance with cohort and religion. Criterion variable: ideal family size.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	27.390	6	4.565	6.425**	(6/773)
B (Religion)	8.938	2	4.469	6.289*	(2/773)
AB	10.367	12	.864	1.216!	(2/773)
Error	549.253	773	.711		

** significant at .001
 * significant at .002
 ! not significant

Table C.3 Summary table of analysis of variance with cohort and education. Criterion variable: ideal family size.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	21.385	6	3.564	5.067**	(6/765)
B (Education)	20.312	3	6.771	9.625**	(3/765)
AB	9.797	18	.554	.774!	(18/765)
Error	538.105	765	.703		

** significant at .001
! not significant

Table C.4 Summary table of analysis of variance with cohort and ethnicity. Criterion variable: ideal family size.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	24.283	6	4.047	5.910***	(6/711)
B (Ethnicity)	8.432	7	1.205	1.759*	(7/711)
AB	50.537	42	1.203	1.757**	(42/711)
Error	486.856	711	.685		

***significant at .001
**significant at .003
*significant at .093

Table C.5 Summary table of analysis of variance with cohort and respondent's residence in youth. Criterion variable: ideal family size.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	19.968	6	3.328	4.672**	(6/761)
B (Residence in youth)	4.576	2	2.288	3.212*	(2/761)
AB	15.259	12	1.272	1.785*	(12/761)
Error	542.052	761	.712		

**significant at .001
*significant at .040

Table C.6 Summary table of analysis of variance with cohort and religiosity. Criterion variable: ideal family size.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	21.413	6	3.569	5.088**	(6/769)
B (Religiosity)	10.174	2	5.087	7.252**	(2/769)
AB	16.147	12	1.346	1.918*	(12/769)
Error	539.438	769	.701		

**significant at .001
*significant at .029

Table C.7 Summary table of analysis of variance with cohort and nativity. Criterion variable: ideal family size.

Source of variance	S.S	df	M.S.	F	df
A (Cohort)	25.406	6	4.234	5.922**	(6/779)
B (Nativity)	1.553	1	1.553	2.172!	(1/779)
AB	9.127	6	1.521	2.127*	(6/779)
Error	557.015	779	.715		

**significant at .001
*significant at .048
!not significant

Table C.8 Summary table of analysis of variance with religion and ethnicity. Criterion variable: ideal family size.

Source of variance	S.S	df	M.S.	F	df
A (Religion)	7.535	2	3.768	5.401**	(2/958)
B (Ethnicity)	7.434	7	1.062	1.522!	(7/958)
AB	5.461	14	.390	.599!	(14/958)
Error	668.329	958	.698		

**significant at .005
!not significant

Table C.9 Summary table of analysis of variance with religion and religiosity. Criterion variable: ideal family size.

Source of variance	S.S.	df	M.S.	F	df
A (Religion)	9.587	2	4.793	7.024**	(2/999)
B (Religiosity)	11.736	2	5.868	8.599**	(2/999)
AB	5.398	4	1.350	1.978*	(4/999)
Error	681.720	999	.682		

**significant at .001
*significant at .095

Table C.10 Summary table of analysis of variance with religion and family size of origin. Criterion variable: ideal family size.

Source of variance	S.S.	df	M.S.	F	df
A (Religion)	3.158	2	1.579	2.014!	(2/653)
B (Family size of origin)	10.039	5	2.008	2.560**	(5/653)
AB	4.179	10	.418	.533!	(10/653)
Error	512.086	653	.784		

**significant at .026
!not significant

Table C.11 Summary table of variance with ethnicity and religiosity. Criterion variable: ideal family size.

Source of variance	S.S.	df	M.S.	F	df
A (Ethnicity)	9.782	7	1.397	2.053*	(7/951)
B (Religiosity)	15.898	2	7.949	11.677**	(2/951)
AB	10.769	14	.769	1.130!	(14/951)
Error	647.353	951	.681		

**significant at .001
*significant at .046
!not significant

Table C.12 Summary table of analysis of variance with ethnicity and education. Criterion variable: ideal family size.

Source of variance	S.S.	df	M.S.	F	df
A (Ethnicity)	7.675	7	1.096	1.646!	(7/949)
B (Education)	34.705	3	11.568	17.361**	(3/949)
AB	14.121	21	.672	1.009!	(21/949)
Error	632.334	949	.666		

**significant at .001
!not significant

Table C.13 Summary table of analysis of variance with ethnicity and family size of origin. Criterion variable: ideal family size.

Source of variance	S.S.	df	M.S.	F	df
A (Ethnicity)	5.378	7	.768	.998!	(7/607)
B (Family size of origin)	11.266	5	2.253	2.927**	(5/607)
AB	33.478	34	.985	1.279!	(34/607)
Error	467.252	607	.770		

**significant at .013
!not significant

Table C.14 Summary table of analysis of variance with religiosity and family size of origin. Criterion variable: ideal family size.

Source of variance	S.S.	df	M.S.	F	df
A (Religiosity)	12.296	2	6.148	7.989**	(2/648)
B (Family size of origin)	9.208	5	1.842	2.393*	(5/648)
AB	5.992	10	.599	.779!	(10/648)
Error	498.698	648	.770		

**significant at .001
*significant at .036
!not significant

Table C.15 Summary table of analysis of variance with education and family size of origin. Criterion variable: ideal family size.

Source of variance	S.S.	df	M.S.	F	df
A (Education)	19.632	3	6.544	8.602**	(3/646)
B (Family size of origin)	7.312	5	1.462	1.922*	(5/646)
AB	8.227	15	.548	.721!	(15/646)
Error	491.433	646	.761		

**significant at .001
*significant at .088
!not significant

Table C.16 Summary table of analysis of variance with education and residence in youth. Criterion variable: ideal family size.

Source of variance	S.S.	df	M.S.	F	df
A (Education)	29.474	3	9.825	14.506**	(3/982)
B (Residence in youth)	4.478	2	2.239	3.306*	(2/982)
AB	1.194	6	.199	.294!	(6/982)
Error	665.096	982	.677		

**significant at .001
*significant at .036
!not significant

Table C.17 Summary table of analysis of variance with family size of origin and residence in youth. Criterion variable: ideal family size.

Source of variance	S.S.	df	M.S.	F	df
A (Family size of origin)	7.706	5	1.541	2.072*	(5/640)
B (Residence in youth)	5.734	2	2.867	3.855**	(2/640)
AB	29.896	10	2.990	4.020***	(10/640)
Error	475.980	640	.744		

***significant at .001
**significant at .021
*significant at .066

Table C.18 Summary table of analysis of variance with residence in youth and nativity. Criterion variable: ideal family size.

Source of variance	S.S.	df	M.S.	F	df
A (Residence in youth)	9.407	2	4.704	6.475**	(2/989)
B (Nativity)	3.811	1	3.811	5.465*	(1/989)
AB	1.804	2	.902	1.293!	(2/989)
Error	689.706	989	.697		

**significant at .001
*significant at .019
!not significant

Table C.19 Summary table of analysis of variance with cohort and family size of origin. Criterion variable: desired family size.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	30.362	6	5.060	2.911**	(6/442)
B (Family size of origin)	38.254	11	3.478	2.000*	(11/442)
AB	86.536	55	1.573	.905!	(55/442)
Error	768.482	442	1.739		

**significant at .009
*significant at .027
!not significant

Table C.20 Summary table of analysis of variance with cohort and religion. Criterion variable: desired family size.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	87.203	6	14.534	8.620***	(6/738)
A (Religion)	16.136	2	8.068	4.785**	(2/738)
AB	41.877	12	3.490	2.070*	(12/738)
Error	1244.258	738	1.686		

***significant at .001
**significant at .009
*significant at .017

Table C.21 Summary table of analysis of variance with cohort and education. Criterion variable: desired family size.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	75.810	6	12.635	7.329**	(6/730)
B (Education)	5.084	3	1.695	.983!	(3/730)
AB	38.346	18	2.130	1.236!	(18/730)
Error	1258.501	730	1.724		

**significant at .001
!not significant

Table C.22 Summary table of analysis of variance with cohort and ethnicity. Criterion variable: desired family size.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	80.041	6	13.340	7.854**	(6/677)
B (Ethnicity)	14.239	7	2.034	1.198!	(7/677)
AB	91.818	42	2.186	1.287*	(42/677)
Error	1149.844	677	1.698		

**significant at .001
*significant at .109
!not significant

Table C.23 Summary table of analysis of variance with cohort and respondent's residence in youth. Criterion variable: desired family size.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	89.956	6	14.993	8.951**	(6/725)
B (Residence in youth)	.386	2	.193	.115!	(2/725)
AB	23.652	12	1.971	1.177!	(12/725)
Error	1214.330	725	1.675		

**significant at .001
!not significant

Table C.24 Summary table of analysis of variance with cohort and religiosity. Criterion variable: desired family size.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	59.282	6	9.880	5.953**	(6/734)
B (Religiosity)	42.220	2	21.110	12.718**	(2/734)
AB	36.196	12	3.016	1.817*	(12/734)
Error	1218.323	734	1.660		

**significant at .001
*significant at .042

Table C.25 Summary table of analysis of variance with cohort and nativity. Criterion variable: desired family size.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	89.360	6	14.893	8.582**	(6/744)
B (Nativity)	3.767	1	3.767	2.170!	(1/744)
AB	5.451	6	.908	.523!	(6/744)
Error	1291.190	744	1.735		

**significant at .001
!not significant

Table C.26 Summary table of variance with religion and ethnicity. Criterion variable: desired family size.

Source of variance	S.S.	df	M.S.	F	df
A (Religion)	28.287	2	14.143	8.121**	(2/870)
B (Ethnicity)	3.743	7	.535	.307!	(7/870)
AB	57.862	14	4.133	2.373*	(14/870)
Error	1515.186	870	1.742		

**significant at .001
*significant at .003
!not significant

Table C.27 Summary table of analysis of variance with religion and religiosity. Criterion variable: desired family size.

Source of variance	S.S.	df	M.S.	F	df
A (Religion)	15.812	2	7.906	4.583*	(2/911)
B (Religiosity)	73.248	2	36.624	21.229**	(2/911)
AB	12.704	4	3.176	1.841!	(4/911)
Error	1571.655	911	1.725		

**significant at .001
*significant at .010
!not significant

Table C.28 Summary table of variance with religion and family size of origin. Criterion variable: desired family size.

Source of variance	S.S.	df	M.S.	F	df
A (Religion)	8.027	2	4.013	2.215*	(2/602)
B (Family size of origin)	21.581	5	4.316	2.382**	(5/602)
AB	40.590	10	4.059	2.240***	(10/602)
Error	1091.005	602	1.812		

***significant at .014
**significant at .037
*significant at .108

Table C.29 Summary table of analysis of variance with ethnicity and religiosity. Criterion variable: desired family size.

Source of variance	S.S.	df	M.S.	F	df
A (Ethnicity)	6.788	7	.970	.570!	(7/865)
B (Religiosity)	86.526	2	43.263	25.447**	(2/865)
AB	36.773	14	2.627	1.545*	
Error	1470.622	865	1.700		

**significant at .001
*significant at .089
!not significant

Table C.30 Summary table of analysis of variance with ethnicity and education. Criterion variable: desired family size.

Source of variance	S.S.	df	M.S.	F	df
A (Ethnicity)	8.012	7	1.145	.636!	(7/861)
B (Education)	19.040	3	6.347	3.529*	(3/861)
AB	32.788	21	1.561	.868!	(21/861)
Error	1548.583	861	1.799		

*significant at .015
!not significant

Table C.31 Summary table of analysis of variance with ethnicity and family size of origin. Criterion variable: desired family size.

Source of variance	S.S.	df	M.S.	F	df
A (Ethnicity)	8.025	7	1.146	.663!	(7/557)
B (Family size of origin)	21.218	5	4.244	2.455*	(5/577)
AB	122.293	34	3.597	2.081**	(34/557)
Error	962.725	557	1.728		

**significant at .001
*significant at .032
!not significant

Table C.32 Summary table of analysis of variance with religiosity and family size of origin. Criterion variable: desired family size.

Source of variance	S.S.	df	M.S.	F	df
A (Religiosity)	41.677	2	20.838	11.647**	(2/599)
B (Family size of origin)	20.552	5	4.110	2.297*	(5/599)
AB	21.995	10	2.200	1.229!	(10/599)
Error	1071.750	599	1.789		

**significant at .001
*significant at .043
!not significant

Table C.33 Summary table of analysis of variance with education and family size of origin. Criterion variable: desired family size.

Source of variance	S.S.	df	M.S.	F	df
A (Education)	6.709	3	2.236	1.229!	(3/595)
B (Family size of origin)	22.690	5	4.538	2.493*	(5/595)
AB	49.348	15	3.290	1.808*	(15/595)
Error	1082.880	595	1.820		

*significant at .03
!not significant

Table C.34 Summary table of analysis of variance with education and residence in youth. Criterion variable: desired family size.

Source of variance	S.S.	df	M.S.	F	df
A (Education)	25.330	3	5.066	2.833*	(3/897)
B (Residence in youth)	1.059	2	.530	.296!	(2/897)
AB	2.264	6	.377	.211!	(6/897)
Error	1604.316	897	1.789		

*significant at .006
!not significant

Table C.35 Summary table of analysis of variance with family size of origin and residence in youth. Criterion variable: desired family size.

Source of variance	S.S.	df	M.S.	F	df
A (Family size of origin)	19.804	5	3.961	2.245*	(5/591)
B (Residence in youth)	1.619	2	.810	.459!	(2/591)
AB	42.363	10	4.236	2.401**	(10/591)
Error	1042.688	591	1.764		

**significant at .009
*significant at .048
!not significant

Table C.36 Summary table of analysis of variance with residence in youth and nativity. Criterion variable: desired family size.

Source of variance	S.S.	df	M.S.	F	df
A (Residence in youth)	2.816	2	1.408	.792!	(2/903)
B (Nativity)	.735	1	.735	.413!	(1/903)
AB	22.110	2	11.055	6.215*	(2/903)
Error	1606.256	903	1.779		

*significant at .002
!not significant

Table C.37 Summary table of analysis of variance with cohort and family size of origin. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	48.416	6	8.069	3.144**	(6/467)
B (Family size of origin)	72.665	11	6.606	2.574*	(11/467)
AB	139.514	55	2.537	.988!	(55/467)
Error	1198.403	467	2.566		

**significant at .005
*significant at .004
!not significant

Table C.38 Summary table of analysis of variance with cohort and religion. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	96.446	6	16.074	6.624**	(6/765)
B (Religion)	46.968	2	23.484	9.678**	(2/765)
AB	47.692	12	3.974	1.638*	(12/765)
Error	1856.283	765	2.427		

**significant at .001
*significant at .076

Table C. 39 Summary table of analysis of variance with cohort and education. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	67.360	6	11.227	4.674**	(6/757)
B (Education)	74.045	3	24.682	10.275**	(3/757)
AB	58.212	18	3.234	1.346!	(18/757)
Error	1818.396	757	2.402		

**significant at .001
!not significant

Table C.40 Summary table of analysis of variance with cohort and ethnicity. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	84.202	6	14.034	5.765**	(6/704)
B (Ethnicity)	49.793	7	7.113	2.922*	(7/704)
AB	123.560	42	2.942	1.209!	(42/704)
Error	1713.669	704	2.434		

**significant at .001
*significant at .005
!not significant

Table C.41 Summary table of analysis of variance with cohort and respondent's residence in youth. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	73.093	6	12.182	4.792**	(6/752)
B (Residence in youth)	2.254	2	1.127	.443!	(2/752)
AB	23.977	12	1.998	.786!	(12/752)
Error	1911.522	752	2.542		

**significant at .001
!not significant

Table C.42 Summary table of analysis of variance with cohort and religiosity. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	68.050	6	11.342	4.610***	(6/761)
B (Religiosity)	22.622	2	11.311	4.598*	(2/761)
AB	50.173	12	4.181	1.699**	(12/761)
Error	1872.233	761	2.460		

***significant at .001
**significant at .010
*significant at .062

Table C.43 Summary table of analysis of variance with cohort and nativity. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	88.720	6	14.787	5.864**	(6/771)
B (Nativity)	1.593	1	1.593	.632!	(1/771)
AB	4.930	6	.822	.326!	(6/771)
Error	1944.303	771	2.522		

**significant at.001
!not significant

Table C.44 Summary table of analysis of variance with religion and ethnicity. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Religion)	41.456	2	20.728	8.459**	(2/913)
B (Ethnicity)	10.057	7	1.437	.586!	(7/913)
AB	52.810	14	3.772	1.539*	(14/913)
Error	2237.240	913	2.450		

**significant at .001
*significant at .091
!not significant

Table C.45 Summary table of analysis of variance with religion and religiosity. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Religion)	44.899	2	22.450	9.188**	(2/954)
B (Religiosity)	34.607	2	17.303	7.082**	(2/954)
AB	33.886	4	8.471	3.467*	(4/954)
Error	2330.937	954	2.443		

**significant at .001
*significant at .008

Table C.46 Summary table of analysis of variance with religion and family size of origin. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Religion)	28.361	2	14.181	5.281*	(2/641)
B (Family size of origin)	23.597	5	4.719	1.758!	(5/641)
AB	22.534	10	2.253	.839!	(10/641)
Error	1721.187	641	2.685		

*significant at .005
!not significant

Table C.47 Summary table of analysis of variance with ethnicity and education. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Ethnicity)	25.489	7	3.641	1.518!	(7/904)
B (Education)	97.218	3	32.406	13.509*	(3/904)
AB	65.655	21	3.126	1.303!	(21/904)
Error	2168.541	904	2.399		

*significant at .001
!not significant

Table C.48 Summary table of variance with ethnicity and family size of origin. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Ethnicity)	26.862	7	3.837	1.439!	(7/595)
B (Family size of origin)	17.165	5	3.433	1.287!	(5/595)
AB	87.024	34	2.560	.960!	(34/595)
Error	1587.095	595	2.667		

!not significant

Table C.49 Summary table of analysis variable with religiosity and family size or origin. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Religiosity)	38.648	2	19.324	7.233**	(2/637)
B (Family size of origin)	27.627	5	5.525	2.068*	(5/637)
AB	14.142	10	1.414	.529!	(10/637)
Error	1701.746	637	2.671		

**significant at .001
*significant at .067
!not significant

Table C.50 Summary table of analysis of variance with education and family size of origin. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Education)	64.079	3	21.360	8.314**	(3/634)
B (Family size of origin)	14.605	5	2.921	1.137!	(5/634)
AB	79.114	15	5.274	2.053*	(15/634)
Error	1628.774	634	2.569		

**significant at .001
*significant at .011
!not significant

Table C.51 Summary table of analysis of variance with education and residence in youth. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Education)	87.556	3	29.185	11.759**	(3/939)
B (Residence in youth)	2.614	2	1.307	.527!	(2/939)
AB	11.494	6	1.916	.772!	(6/939)
Error	2330.503	939	2.482		

**significant at .001
!not significant

Table C.52 Summary table of analysis of variance with family size of origin and residence in youth. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Family size of origin)	27.680	5	5.536	2.045*	(5/629)
B (Residence in youth)	2.023	2	1.012	.374!	(2/629)
AB	49.282	10	4.928	1.820**	(10/629)
Error	1702.905	629	2.707		

**significant at .054
*significant at .070
!not significant

Table C.53 Summary table of analysis of variance with residence in youth and nativity. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Residence in youth)	8.290	2	4.145	1.623!	(2/946)
B (Nativity)	.236	1	.236	.092!	(1/946)
AB	12.030	2	6.015	2.355*	(2/946)
Error	2416.105	946	2.554		

*significant at .093
!not significant

Table C.54 Summary table of analysis of variance with ethnicity and religiosity. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Ethnicity)	26.175	7	3.739	1.501!	(7/906)
B (Religiosity)	34.192	2	17.096	6.861*	(2/906)
AB	19.014	14	1.358	.545!	(14/906)
Error	2257.556	906	2.492		

*significant at .001
!not significant

Table C.55 Summary table of analysis of variance with cohort and family size of origin. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	33.023	6	5.504	2.330*	(6/467)
B (Family size of origin)	71.289	11	6.481	2.744**	(11/467)
AB	142.957	55	2.599	1.100!	(55/467)
Error	1103.015	467	2.362		

**significant at .002
*significant at .032
!not significant

Table C.56 Summary table of analysis of variance with cohort and religion. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	76.946	6	12.824	5.621*	(6/765)
B (Religion)	42.478	2	21.239	9.309*	(2/765)
AB	42.450	12	3.537	1.550!	(12/765)
Error	1745.466	765	2.282		

*significant at .001
!not significant

Table C.57 Summary of analysis of variance with cohort and education. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	55.314	6	9.219	4.077*	(6/757)
B (Education)	62.044	3	20.681	9.146*	(3/757)
AB	56.145	18	3.119	1.379!	(18/757)
Error	1711.830	757	2.261		

*significant at .001
!not significant

Table C.58 Summary table of analysis of variance with cohort and ethnicity. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	66.780	6	11.130	4.918***	(6/704)
B (Ethnicity)	38.581	7	5.512	2.435**	(7/704)
AB	128.950	42	3.070	1.357*	(42/704)
Error	1593.193	704	2.263		

***significant at .001
**significant at .018
*significant at .069

Table C.59 Summary table of analysis of variance with cohort and residence in youth. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	59.459	6	9.910	4.155*	(6/752)
B (Residence in youth)	1.122	2	.561	.235!	(2/752)
AB	19.289	12	1.607	.674!	(12/752)
Error	1793.450	752	2.385		

*significant at .001
!not significant

Table C.60 Summary table of analysis of variance with cohort and religiosity. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	53.035	6	8.839	3.841***	(6/761)
B (Religiosity)	29.286	2	14.643	6.362**	(2/761)
AB	42.891	12	3.574	1.553*	(12/761)
Error	1751.468	761	2.302		

***significant at .001
**significant at .002
*significant at .100

Table C.61 Summary table of analysis of variance with cohort and nativity. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	70.619	6	11.770	4.974*	(6/771)
B (Nativity)	.701	1	.701	.296!	(1/771)
AB	4.843	6	.807	.341!	(6/771)
Error	1824.574	771	2.367		

*significant at .001
!not significant

Table C.62 Summary table of analysis of variance with religion and ethnicity. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Religion)	68.452	9	7.606	3.298*	(9/913)
B (Ethnicity)	7.318	7	1.045	.453!	(7/913)
AB	48.113	14	3.437	1.490!	(14/913)
Error	2105.387	913	2.306		

*significant at .001
!not significant

Table C.63 Summary table of analysis of variance with religion and religiosity. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Religion)	39.834	2	19.917	8.675**	(2/954)
B (Religiosity)	38.199	2	19.099	8.319**	(2/954)
AB	39.641	4	9.910	4.316*	(4/954)
Error	2190.378	954	2.256		

**significant at .001
*significant at .002

Table C.64 Summary table of analysis of variance with religion and family size of origin. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Religion)	27.569	2	13.784	5.454*	(2/641)
B (Family size of origin)	22.661	5	4.532	1.793!	(5/641)
AB	21.891	10	2.189	.866!	(10/641)
Error	1620.206	641	2.528		

*significant at .005
!not significant

Table C.65 Summary table of analysis of variance with ethnicity and religiosity. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Ethnicity)	17.733	7	2.533	1.083!	(7/906)
B (Religiosity)	38.649	2	19.325	8.260*	(2/906)
AB	20.901	14	1.493	.638!	(14/906)
Error	2119.531	906	2.339		

*significant at .001
!not significant

Table C.66 Summary table of analysis of variance with ethnicity and education. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Ethnicity)	18.296	7	2.614	1.155!	(7/904)
B (Education)	75.105	3	25.035	11.059**	(3/904)
AB	75.494	21	3.595	1.588*	(21/904)
Error	2046.470	904	2.264		

**significant at .001
*significant at .045
!not significant

Table C.67 Summary table of analysis of variance with ethnicity and family size of origin. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Ethnicity)	24.908	7	3.558	1.427!	(7/595)
B (Family size of origin)	17.468	5	3.494	1.401!	(5/595)
AB	84.844	34	2.495	1.001!	(34/595)
Error	1483.794	595	2.494		

!not significant

Table C.68 Summary table of analysis of variance with religiosity and family size of origin. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Religiosity)	41.578	2	20.789	8.299**	(2/637)
B (Family size of origin)	26.466	5	5.293	2.113*	(5/637)
AB	15.062	10	1.506	.601!	(10/637)
Error	1595.736	637	2.505		

**significant at .001
*significant at .062
!not significant

Table C.69 Summary table of analysis of variance with education and family size of origin. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Education)	48.691	3	16.230	6.698**	(3/634)
B (Family size of origin)	16.205	5	3.241	1.337!	(5/634)
AB	84.478	15	5.632	2.324*	(15/634)
Error	1536.306	634	2.423		

**significant at .001
*significant at .003
!not significant

Table C.70 Summary table of analysis of variance with education and residence in youth. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Education)	66.708	3	22.236	9.436*	(3/939)
B (Residence in youth)	2.482	2	1.241	.526!	(2/939)
AB	12.396	6	2.066	.877!	(6/939)
Error	2212.870	939	2.357		

*significant at .001
!not significant

Table C.71 Summary table of analysis of variance with family size of origin and residence in youth. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Family size of origin)	27.311	5	5.462	2.148*	(5/629)
B (Residence in youth)	1.276	2	.638	.251!	(2/629)
AB	48.443	10	4.844	1.905**	(10/629)
Error	1599.289	629	2.543		

**significant at .042
*significant at .058
!not significant

Table C.72 Summary table of analysis of variance with residence in youth and nativity. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Residence in youth)	5.809	2	2.905	1.205!	(2/946)
B (Nativity)	.075	1	.075	.031!	(1/946)
AB	9.817	2	4.908	2.036!	(2/946)
Error	2280.727	946	2.411		

!not significant

Table C.73 Summary table of analysis of variance with cohort and family size of origin. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	33.675	6	5.612	2.113*	(6/467)
B (Family size of origin)	76.019	11	6.911	2.601**	(11/467)
AB	134.160	55	2.439	.918!	(55/467)
Error	1240.588	467	2.657		

**significant at .003
*significant at .050
!not significant

Table C.74 Summary table of analysis of variance with cohort and religion. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	68.138	6	11.356	4.430**	(6/765)
B (Religion)	45.483	2	22.742	8.871**	(2/765)
AB	49.493	12	4.124	1.609*	(12/765)
Error	1961.068	765	2.563		

**significant at .001
*significant at .084

Table C.75 Summary table of analysis of variance with cohort and education. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	44.443	6	7.407	2.913*	(6/757)
B (Education)	67.274	3	22.425	8.818**	(3/757)
AB	63.463	18	3.526	1.386!	(18/757)
Error	1925.094	757	2.543		

**significant at .001
*significant at .008
!not significant

Table C.76 Summary table of analysis of variance with cohort and ethnicity. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	57.685	6	9.614	3.753**	(6/704)
B (Ethnicity)	56.251	7	8.036	3.137*	(7/704)
AB	131.161	42	3.123	1.219!	(42/704)
Error	1803.590	704	2.562		

**significant at .001
*significant at .003
!not significant

Table C.77 Summary table of analysis of variance with cohort and residence in youth. Criterion variable: wanted completed fertility 2.

Source of variation	S.S.	df	M.S.	F	df
A (Cohort)	51.716	6	8.619	3.226*	(6/752)
B (Residence in youth)	2.222	2	1.111	.416!	(2/752)
AB	29.427	12	2.452	.918!	(12/752)
Error	2008.996	752	2.672		

*significant at .004
!not significant

Table C.78 Summary table of analysis of variance with cohort and religiosity. Criterion variable: wanted completed fertility 2.

Source of variable	S.S.	df	M.S.	F	df
A (Cohort)	47.208	6	7.868	3.027***	(6/761)
B (Religiosity)	18.072	2	9.036	3.476**	(2/761)
AB	53.704	12	4.475	1.722*	(12/761)
Error	1978.281	761	2.600		

***significant at .006
**significant at .031
*significant at .058

Table C.79 Summary table of analysis of variance with cohort and nativity. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	64.251	6	10.708	4.037*	(6/771)
B (Nativity)	5.201	1	5.201	1.961!	(1/771)
AB	5.583	6	.931	.351!	(6/771)
Error	2045.023	771	2.652		

*significant at .001
!not significant

Table C.80 Summary table of analysis of variance with religion and ethnicity. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Religion)	41.825	2	20.912	8.071**	(2/913)
B (Ethnicity)	14.225	7	2.032	.784!	(7/913)
AB	55.838	14	3.988	1.539*	(14/913)
Error	2365.698	913	2.591		

**significant at .001
*significant at .091
!not significant

Table C.81 Summary table of analysis of variance with religion and religiosity. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Religion)	50.743	2	25.372	9.752***	(2/954)
B (Religiosity)	20.815	2	10.408	4.000*	(2/954)
AB	32.739	4	8.185	3.146**	(4/954)
Error	2482.064	954	2.602		

***significant at .001
**significant at .014
*significant at .018

Table C.82 Summary table of analysis of variance with religion and family size of origin. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Religion)	26.744	2	13.372	4.741*	(2/641)
B (Family size of origin)	17.075	5	3.415	1.211!	(5/641)
AB	27.926	10	2.793	.990!	(10/641)
Error	1807.736	641	2.820		

*significant at .009
!not significant

Table C.83 Summary table of analysis of variance with ethnicity and religiosity. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Ethnicity)	31.688	7	4.527	1.719*	(7/906)
B (Religiosity)	22.331	2	11.165	4.241**	(2/906)
AB	20.875	14	1.491	.566!	(14/906)
Error	2385.116	906	2.633		

**significant at .015
*significant at .100
!not significant

Table C.84 Summary table of analysis of variance with ethnicity and education. Criterion variable: wanted completed fertility 2.

Source or variance	S.S.	df	M.S.	F	df
A (Ethnicity)	28.647	7	4.092	1.609!	(7/904)
B (Education)	89.970	2	29.990	11.788*	(3/904)
AB	73.584	21	3.504	1.377!	(21/904)
Error	2299.806	904	2.544		

*significant at .001
!not significant

Table C.85 Summary table of analysis of variance with ethnicity and family size of origin. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Ethnicity)	32.193	7	4.599	1.653!	(7/595)
B (Family size of origin)	10.659	5	2.132	.766!	(5/595)
AB	87.134	34	2.563	.921!	(34/595)
Error	1655.470	595	2.782		

!not significant

Table C.86 Summary table of analysis of variance with religiosity and family size of origin. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Religiosity)	26.233	2	13.117	4.625*	(2/637)
B (Family size of origin)	21.564	5	4.313	1.521!	(5/637)
AB	11.121	10	1.112	.392!	(10/637)
Error	1806.429	637	2.836		

*significant at .010
!not significant

Table C.87 Summary table of analysis of variance with education and family size of origin. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Education)	63.486	3	21.162	7.837**	(3/634)
B (Family size of origin)	11.102	5	2.220	.822!	(5/634)
AB	86.906	15	5.794	2.146*	(15/634)
ERror	1711.967	634	2.700		

**significant at .001
*significant at .007
!not significant

Table C.88 Summary table of analysis of variance with education and residence in youth. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Education)	84.106	3	28.035	10.619*	(3/939)
B (Residence in youth)	1.348	2	.674	.255!	(2/939)
AB	22.067	6	3.678	1.393!	(6/939)
Error	2479.174	939	2.640		

*significant at .001
!not significant

Table C.89 Summary table of analysis of variance with family size of origin and residence in youth. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Family size of origin)	20.319	5	4.064	1.411!	(5/629)
B (Residence in youth)	1.880	2	.940	.326!	(2/629)
AB	32.180	10	3.218	1.118!	(10/629)
Error	1811.231	629	2.880		

!not significant

Table C.90 Summary table of analysis of variance with residence in youth and nativity. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Residence in youth)	6.286	2	3.143	1.158!	(2/946)
B (Nativity)	4.199	1	4.199	1.547!	(1/946)
AB	12.559	2	6.279	2.314*	(2/946)
Error	2567.469	946	2.714		

*significance at .097
!not significant

APPENDIX D

SUMMARY TABLES OF ANALYSIS OF VARIANCE

FOR CHAPTER 5

Table D.1 Summary table of analysis of variance with cohort and relative income (husband). Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	74.968	6	12.495	5.065**	(6/554)
B (Relative income [husband])	44.072	10	4.407	1.787*	(10/554)
AB	35.221	10	3.522	1.428!	(10/554)
Error	1391.332	554	2.467		

**significant at .001
*significant at .060
!not significant

Table D.2 Summary table of analysis of variance with cohort and financial success. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	126.301	6	21.050	9.234**	(6/680)
B (Financial success)	35.305	2	17.652	7.743**	(2/680)
AB	65.754	12	5.479	2.404*	(12/680)
Error	1550.203	680	2.280		

**significant at .001
*significant at .005

Table D.3 Summary table of analysis of variance with cohort and ownership of high status items (standardized for income and actual family size). Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	129.334	6	21.556	9.892*	(6/594)
B (Status items)	61.582	4	15.395	7.065*	(4/594)
AB	53.435	24	2.226	1.022!	(24/594)
Error	1249.411	594	2.179		

*significant at .001
!not significant

Table D.4 Summary table of analysis of variance with cohort and proportion of years worked by respondent. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	43.718	6	7.286	3.239**	(6/537)
B (Years worked)	74.600	10	7.460	3.316***	(10/537)
AB	187.563	51	3.678	1.635*	
Error	1207.948	537	2.249		

***significant at .001
**significant at .004
*significant at .005

Table D.5 Summary table of analysis of variance with cohort and respondent's education. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	67.360	6	11.227	4.674	(6/757)
B (Education)	74.045	3	24.682	10.275*	(3/757)
AB	58.212	18	3.234	1.346!	(18/757)
Error	1818.396	757	2.402		

*significant at .001
!not significant

Table D.6 Summary table of analysis of variance with cohort and extent of post-secondary support. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	107.951	6	17.992	8.133**	(6/644)
B (Post-secondary support)	31.965	2	15.983	7.225**	(2/644)
AB	53.126	12	4.427	2.001*	(12/644)
Error	1424.714	644	2.212		

**significant at .001
*significant at .022

Table D.7 Summary table of variance with cohort and implied work years lost through childbearing. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	46.906	6	7.818	3.511*	(6/567)
B (Work years lost)	34.262	3	11.421	5.130*	(3/567)
AB	54.662	18	3.037	1.364!	(18/567)
Error	1262.351	567	2.226		

*significant at .002
!not significant

Table D.8 Summary table of analysis of variance with relative income (husband) and financial success. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Relative income [husband])	73.187	10	7.319	2.804*	(10/549)
B (Financial success)	10.809	2	5.404	2.071!	(2/549)
AB	40.786	19	2.147	0.823!	(19/549)
Error	1432.753	549	2.610		

*significant at .002
!not significant

Table D.9 Summary table of analysis of variance with relative income (husband) and extent of post-secondary support. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Relative income [husband])	70.708	10	7.071	2.870*	(10/510)
B (Post-secondary support)	49.413	2	24.706	10.028**	(2/510)
AB	55.585	19	2.926	1.187!	(19/510)
Error	1256.517	510	2.464		

**significant at .001
*significant at .002
!not significant

Table D.10 Summary table of analysis of variance with relative income (husband) and ownership of high status items (standardized for income and actual family size). Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Relative income [husband]	83.819	10	8.382	3.507*	(10/534)
B (Status items)	67.258	4	16.814	7.035*	(4/534)
AB	69.655	33	2.111	0.833!	(33/534)
Error	1276.387	534	2.390		

*significant at .001
!not signficant

Table D.11 Summary table of analysis of variance with proportion of years worked by respondent and implied work years lost through childbearing. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Years worked)	60.639	10	6.064	2.725*	(10/592)
B (Years lost)	52.389	3	17.463	7.846**	(3/592)
AB	81.007	29	2.793	1.255!	(25/592)
Error	1317.609	592	2.226		

**significant at .001
*significant at .003
!not significant

Table D.12 Summary table of anlaysis of variance with respondent's education and extent of post-secondary support. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	db
A (Education)	72.929	3	24.310	10.010**	(3/861)
B (Post-secondary support)	27.532	2	13.766	5.669*	(2/861)
AB	17.319	6	2.887	1.189!	(6/861)
Error	2090.976	861	2.429		

**significant at .001
*significant at .004
!not significant

Table D.13 Summary table of analysis of variance with cohort and relative income (husband). Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	67.000	6	11.167	4.805**	(6/564)
B (Relative income [husband]	38.340	10	3.834	1.650*	(10/564)
AB	30.529	10	3.053	1.314!	(10/564)
Error	1310.804	564	2.324		

**significant at .001
*significant at .089
!not significant

Table D.14 Summary table of analysis of variance with cohort and financial success. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	107.438	6	17.906	8.370*	(6/680)
B (Financial success)	30.252	2	15.126	7.071*	(2/680)
AB	76.300	12	6.358	2.972*	(12/680)
Error	1454.730	680	2.139		

*significant at .001

Table D.15 Summary table of analysis of variance with cohort and ownership of high status items (standardized for income and actual family size). Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	111.427	6	18.571	8.892*	(6/594)
B (Status items)	54.462	4	13.615	6.519*	(4/594)
AB	52.326	24	2.180	1.044!	(24/594)
Error	1240.530	594	2.088		

*significant at .001
!not significant

Table D.16 Summary table of analysis of variance with cohort and proportion of years worked by respondent. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	36.774	6	6.129	2.831**	(6/537)
B (years worked)	72.958	10	7.296	3.370***	(10/537)
AB	146.587	51	2.874	1.328*	(51/537)
Error	1162.473	537	2.165		

***significant at .001
**significant at .010
*significant at .070

Table D.17 Summary table of analysis of variance with cohort and respondent's education. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	55.314	6	9.219	4.077*	(6/757)
B (Education)	62.044	3	20.681	9.146*	(3/757)
AB	56.145	18	3.119	1.379!	(18/757)
Error	1711.830	757	2.261		

*significant at .001
!not significant

Table D.18 Summary table of analysis of variance with cohort and extent of post-secondary support. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	92.718	6	15.453	7.401***	(6/644)
B (Post-secondary support)	26.687	2	13.344	6.391**	(2/644)
AB	49.865	12	4.155	1.990*	(12/644)
Error	1344.663	644	2.088		

***significant at .001
**significant at .002
*significant at .023

Table D.19 Summary table of analysis of variance with cohort and implied work years lost through childbearing. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	41.378	6	6.896	3.299*	(6/567)
B (Work years lost)	36.669	3	12.223	5.848**	(3/567)
AB	47.538	18	2.641	1.263!	(18/567)
Error	1185.211	567	2.090		

**significant at .001
*significant at .003
!not significant

Table D.20 Summary table of analysis of variance with relative income (husband) and financial success. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Relative income [husband]	60.322	10	6.032	2.469*	(10/549)
B (Financial success)	10.248	2	5.124	2.097!	(2/549)
AB	43.421	19	2.285	0.935!	(19/549)
Error	1341.289	549	2.443		

*significant at .007
!not significant

Table D.21 Summary table of analysis of variance with relative income (husband) and extent of post-secondary support. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Relative income [husband])	58.585	10	5.859	2.536*	(10/510)
B (Post-secondary support)	47.671	2	23.836	10.318**	(2/510)
AB	46.036	19	2.423	1.049!	(19/510)
Error	1178.155	510	2.310		

**significant at .001
*significant at .006
!not significant

Table D.22 Summary table of analysis of variance with relative income (husband) and ownership of high status items (standardized for income and actual family size). Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Relative income [husband])	70.575	10	7.057	3.091*	(10/534)
B (Status items)	59.190	4	14.797	6.481*	(4/534)
AB	64.851	33	1.965	0.861!	(33/534)
Error	1219.215	534	2.283		

*significant at .001
!not significant

Table D.23 Summary table of analysis of variance with proportion of years worked by respondent and implied work years lost through childbearing. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Years worked)	55.240	10	5.524	2.666**	(10/592)
B (Years lost)	54.360	3	18.120	8.745***	(3/592)
AB	86.527	29	2.984	1.440*	(29/592)
Error	1226.628	592	2.072		

***significant at .001
**significant at .005
*significant at .065

Table D.24 Summary table of analysis of variance with respondent's education and extent of post-secondary support. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Education)	52.975	3	17.658	7.668**	(3/861)
B (Post-secondary support)	23.605	2	11.802	5.125*	(2/861)
AB	18.668	6	3.111	1.351!	(6/861)
Error	1982.646	861	2.303		

**significant at .001
*significant at .006
!not significant

Table D.25 Summary table of analysis of variance with cohort and relative income (husband). Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	59.197	6	9.866	3.994**	(6/564)
B (Relative income [husband]	44.204	10	4.420	1.790*	(10/564)
AB	38.148	10	3.815	1.544!	(10/564)
Error	1398.083	564	2.470		

**significant at .001
*significant at .059
!not significant

Table D.26 Summary table of analysis of variance with cohort and financial success. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	99.152	6	16.525	7.203*	(6/680)
B (Financial success)	44.649	2	22.325	9.731*	(2/680)
AB	77.493	12	6.458	2.815*	(12/680)
Error	1560.098	680	2.294		

*significant at .001

Table D.27 Summary table of analysis of variance with cohort and ownership of high status items (standardized for income and actual family size). Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	108.523	6	18.087	8.256*	(6/594)
B (Status items)	55.740	4	13.935	6.361*	(4/594)
AB	58.024	24	2.418	1.104!	(24/594)
Error	1301.287	594	2.191		

*significant at .001
!not significant

Table D.28 Summary table of analysis of variance with cohort and proportion of years worked by respondent. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	33.049	6	5.508	2.311*	(6/537)
B (Years worked)	67.140	10	6.714	2.817***	(10/537)
AB	191.446	51	3.754	1.575**	(51/537)
Error	1279.807	537	2.383		

***significant at .002
**significant at .008
*significant at .032

Table D.29 Summary table of analysis of variance with cohort and respondent's education. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	44.443	6	7.407	2.913*	(6/757)
B (Education)	67.274	3	22.425	8.818**	(3/757)
AB	63.463	18	3.526	1.386!	(18/757)
Error	1925.094	757	2.543		

**significant at .001
*significant at .008
!not significant

Table D.30 Summary table of analysis of variance with cohort and extent of post-secondary support. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	76.815	6	12.803	5.656**	(6/644)
B (Post-secondary support)	40.306	2	20.153	8.903**	(2/644)
AB	61.141	12	5.095	2.251*	(12/644)
Error	1457.732	644	2.264		

**significant at .001
*significant at .009

Table D.31 Summary table of analysis of variance with cohort and implied work years lost through childbearing. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	38.031	6	6.338	2.715*	(6/567)
B (Work years lost)	36.528	3	12.176	5.216**	(3/567)
AB	48.403	18	2.689	1.152!	(18/567)
Error	1323.594	567	2.334		

**significant at .002
*significant at .013
!not significant

Table D.32 Summary table of analysis of variance with relative income (husband) and financial success. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Relative income [husband])	69.002	10	6.900	2.661**	(10/549)
B (Financial success)	13.732	2	6.866	2.648*	(2/549)
AB	35.288	19	1.857	0.716!	(19/549)
Error	1423.728	549	2.593		

**significant at .004
*significant at .070
!not significant

Table D.33 Summary table of analysis of variance with relative income (husband) and extent of post-secondary support. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Relative income [husband])	68.358	10	6.836	2.813*	(10/510)
B (Post-secondary support)	50.568	2	25.284	10.405**	(2/510)
AB	60.856	19	3.203	1.318!	(19/510)
Error	1239.280	510	2.430		

**significant at .001
*significant at .002
!not significant

Table D.34 Summary table of analysis of variance with relative income (husband) and ownership of high status items (standardized for income and actual family size). Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Relative income [husband])	80.690	10	8.069	3.411*	(10/534)
B (Status items)	62.880	4	15.720	6.645*	(4/534)
AB	75.142	33	2.277	0.962!	(33/534)
Error	1263.331	534	2.366		

*significant at .001
!not significant

Table D.35 Summary table of analysis of variance with proportion of years worked by respondent and implied work years lost through childbearing. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Years worked)	46.318	10	4.632	1.832*	(10/592)
B (Years lost)	38.947	3	12.982	5.135**	(3/592)
AB	78.745	29	2.715	1.074!	(29/592)
Error	1496.765	592	2.528		

**significant at .002
*significant at .052
!not significant

Table D.36 Summary table of analysis of variance with respondent's education and extent of post-secondary support. Criterion variable: wanted completed fertility 2.

Source of variance	S.S	df	M.S.	F	df
A (Education)	66.841	3	22.280	8.687**	(3/861)
B (Post-secondary support)	35.441	2	17.720	6.909**	(2/861)
AB	18.469	6	3.078	1.200!	(6/861)
Error	2208.199	861	2.565		

**significant at .001
!not significant

APPENDIX E

SUMMARY TABLES OF ANALYSIS OF VARIANCE FOR CHAPTER 6

Table E.1 Summary table of analysis of variance with cohort and mother role. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	102.952	6	17.159	7.372**	(6/716)
B (Mother role)	19.591	2	9.796	4.208*	(2/716)
AB	36.800	12	3.067	1.318!	(12/716)
Error	1666.430	716	2.327		

**significant at .001
*significant at .015
!not significant

Table E.2 Summary table of analysis of variance with cohort and traditional female role. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	109.818	6	18.303	7.759*	(6/716)
B (Female role)	7.611	2	3.806	1.613!	(2/716)
AB	26.211	12	2.184	0.926!	(12/716)
Error	1688.999	716	2.359		

*significant at .001
!not significant

Table E.3 Summary table of analysis of variance with cohort and tolerance of large families. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	107.360	6	17.893	7.786*	(6/716)
B (Large families)	58.030	2	29.015	12.625*	(2/716)
AB	19.291	12	1.608	0.699!	(12/716)
Error	1645.500	716	2.298		

*significant at .001
!not significant

Table E.4 Summary table of analysis of variance with cohort and egalitarian attitudes. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	103.438	6	17.240	7.374**	(6/716)
B (Egal. attitudes)	22.702	2	11.351	4.855*	(2/716)
AB	26.133	12	2.178	0.931!	(12/716)
Error	1673.986	716	2.338		

**significant at .001
*significant at .008
!not significant

Table E.5 Summary table of analysis of variance with cohort and traditional childbearing motivation. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	119.821	6	19.970	8.635**	(6/716)
B (Childbearing)	8.326	2	4.163	1.800!	(2/716)
AB	58.564	12	4.880	2.110*	(12/716)
Error	1655.931	716	2.313		

**significant at .001
*significant at .015
!not significant

Table E.6 Summary table of analysis of variance with cohort and traditional sex preferences in children. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	123.083	6	20.514	8.678*	(6/716)
B (Sex preferences)	2.979	2	1.490	0.630!	(2/716)
AB	27.267	12	2.272	0.961!	(12/716)
Error	1692.575	716	2.364		

*significant at .001
!not significant

Table E.7 Summary table of analysis of variance with mother role and tolerance of large families. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Mother role)	10.742	2	5.371	2.207!	(2/961)
B (Large families)	89.698	2	44.849	18.429*	(2/961)
AB	10.516	4	2.269	1.080!	(4/691)
Error	2238.709	961	2.434		

*significant at .001
!not significant

Table E.8 Summary table of analysis of variance with mother role and egalitarian attitudes. Criterion variables: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Mother role)	23.634	2	11.817	4.731*	(2/961)
B (Egal. attitudes)	31.522	2	15.761	6.310**	(2/961)
AB	7.108	4	1.777	0.711!	(4/961)
Error	2400.294	961	2.498		

**significant at .002
*significant at .009
!not significant

Table E.9 Summary table of analysis of variance with mother role orientation and traditional childbearing motivation. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Mother role)	34.790	2	17.395	6.890*	(2/961)
B (Childbearing)	1.757	2	0.879	0.348!	(2/961)
AB	11.077	4	2.769	1.097!	(4/961)
Error	2426.090	961	2.525		

*significant at .001
!not significant

Table E.10 Summary table of analysis of variance with mother role orientation and traditional sex preferences in children. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Mother role)	45.505	2	22.753	9.082**	(2/961)
B (Sex preferences)	20.877	2	10.439	4.167*	(2/961)
AB	10.402	4	2.601	1.038!	(4/961)
Error	2407.644	961	2.505		

**significant at .001
*significant at .016
!not significant

Table E.11 Summary table of analysis of variance with mother role orientation and traditional female role orientation. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Mother role)	20.297	2	10.148	4.050**	(2/961)
B (Female role)	13.817	2	6.909	2.757*	(2/961)
AB	16.758	4	4.190	1.672!	(4/961)
Error	2408.348	961	2.506		

**significant at .017
*significant at .062
!not significant

Table E.12 Summary table of analysis of variance with traditional female role orientation and egalitarian attitudes. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Female role)	16.834	2	8.417	3.358*	(2/961)
B (Egal. attitudes)	31.202	2	15.601	6.225**	(2/961)
AB	5.598	4	1.400	0.558!	(4/961)
Error	2408.604	961	2.506		

**significant at .002
*significant at .034
!not significant

Table E.13 Summary table of analysis of variance with traditional female role orientation and traditional childbearing motivation. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Female role)	29.470	2	14.735	5.839*	(2/961)
B (Childbearing)	2.917	2	1.458	0.578!	(2/961)
AB	17.485	4	4.371	1.732!	(4/961)
Error	2425.002	961	2.523		

*significant at .003
!not significant

Table E.14 Summary table of analysis of variance with traditional female role orientation and traditional sex preferences in children. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Female role)	39.882	2	19.941	7.920**	(2/961)
B (Sex preferences)	21.734	2	10.867	4.316*	(2/961)
AB	4.133	4	1.033	0.410!	(4/961)
Error	2419.537	961	2.518		

**significant at .001
*significant at .014
!not significant

Table E.15 Summary table of analysis of variance with tolerance of large families and traditional childbearing motivation. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Large families)	115.898	2	57.949	23.674*	(2/961)
B (Childbearing)	3.909	2	1.955	0.798!	(2/961)
AB	3.711	4	0.928	0.379	(4/961)
Error	2352.348	961	2.448		

*significant at .001
!not significant

Table E.16 Summary table of analysis of variance with tolerance of large families and traditional sex preferences in children. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Large families)	116.610	2	58.305	23.901**	(2/961)
B (Sex preferences)	13.026	2	6.513	2.670*	(2/961)
AB	2.662	4	0.665	0.273!	(4/961)
Error	2344.280	961	2.439		

**significant at .001
*significant at .068
!not significant

Table E.17 Summary table of analysis of variance with egalitarian attitudes and traditional childbearing motivation. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Egal. attitudes)	41.787	2	20.893	8.351**	(2/961)
B (Childbearing).	0.966	2	0.433	0.173!	(2/961)
AB	25.733	4	6.433	2.571*	(4/961)
Error	2404.437	961	2.502		

**significant at .001
*significant at .036
!not significant

Table E.18 Summary table of analysis of variance with egalitarian attitudes and traditional sex preferences in children. Criterion variable: expected family size.

Source of variance	S.S.	df	M.S.	F	df
A (Egal. attitudes)	51.315	2	25.657	10.278**	(2/961)
B (Sex preferences)	18.799	2	9.399	3.765*	(2/961)
AB	13.181	4	3.295	1.320!	(4/961)
Error	2399.057	961	2.496		

**significant at .001
*significant at .023
!not significant

Table E.19 Summary table of analysis of variance with cohort and mother role orientation. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	82.686	6	13.781	6.268**	(6/716)
B (Mother role)	20.852	2	10.426	4.742*	(2/716)
AB	38.279	12	3.190	1.451!	(12/716)
Error	1574.298	716	2.199		

**significant at .001
*significant at .009
!not significant

Table E.20 Summary table of analysis of variance with cohort and traditional female role orientation. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	87.553	6	14.592	6.556**	(6/716)
B (Female role)	10.367	2	5.184	2.329*	(2/716)
AB	29.399	12	2.450	1.101!	(12/716)
Error	1593.662	716	2.226		

**significant at .001
*significant at .096
!not significant

Table E.21 Summary table of analysis of variance with cohort and tolerance of large families. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	85.906	6	14.318	6.574*	(6/716)
B (Large families)	54.824	2	27.412	12.587*	(2/716)
AB	19.244	12	1.604	0.736!	(12/716)
Error	1559.361	716	2.178		

*significant at .001
!not significant

Table E.22 Summary table of analysis of variance with cohort and egalitarian attitudes. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	83.483	6	13.914	6.291**	(6/716)
B (Egal. attitudes)	26.425	2	13.213	5.974*	(2/716)
AB	23.368	12	1.947	0.880!	(12/716)
Error	1583.635	716	2.212		

**significant at .001
*significant at .003
!not significant

Table E.23 Summary table of analysis of variance with cohort and traditional childbearing motivation. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	96.346	6	16.058	7.325***	(6/716)
B (Childbearing)	10.172	2	5.086	2.320*	(2/716)
AB	53.722	12	4.477	2.042**	(12/716)
Error	1569.534	716	2.192		

***significant at .001
**significant at .019
*significant at .097

Table E.24 Summary table of analysis of variance with cohort and traditional sex preferences in children. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	101.081	6	16.847	7.508*	(6/716)
B (Sex preferences)	2.520	2	1.260	0.562!	(2/716)
AB	24.402	12	2.033	0.906!	(12/716)
Error	1606.507	716	2.244		

*significant at .001
!not significant

Table E.25 Summary table of analysis of variance with mother role orientation and tolerance of large families. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Mother role)	10.235	2	5.117	2.231!	(2/961)
B (Large families)	88.789	2	44.395	19.354*	(2/961)
AB	8.712	4	2.718	0.949!	(4/961)
Error	2204.405	961	2.294		

*significant at .001
!not significant

Table E.26 Summary table of analysis of variance with mother role orientation and egalitarian attitudes. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Mother role)	23.452	2	11.726	4.982*	(2/961)
B (Egal. attitudes)	34.703	2	17.351	7.372**	(2/961)
AB	5.411	4	1.353	0.575!	(4/961)
Error	2261.792	961	2.354		

**significant at .001
*significant at .007
!not significant

Table E.27 Summary table of analysis of variance with mother role orientation and traditional childbearing motivation. Criterion variable: wanted completed fertility 1.

Source of variable	S.S.	df	M.S.	F	df
A (Mother role)	31.797	2	15.899	6.679*	(2/961)
B (Childbearing)	3.302	2	1.651	0.694!	(2/961)
AB	11.134	4	2.783	1.169!	(4/961)
Error	2287.470	961	2.380		

*significant at .001
!not significant

Table E.28 Summary table of analysis of variance with mother role orientation and traditional sex preferences in children. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Mother role)	43.382	2	21.691	9.165**	(2/961)
B (Sex preferences)	17.279	2	8.640	3.650*	(2/961)
AB	10.141	4	2.535	1.071!	(4/961)
Error	2274.485	961	2.367		

**significant at .001
*significant at .026
!not significant

Table E.29 Summary table of analysis of variance with mother role orientation and traditional female role orientation. Criterion variable: wanted completed fertility 1.

Source of variance	S.S	df	M.S.	F	df
A (Mother role)	18.049	2	9.024	3.825**	(2/961)
B (Female role)	16.519	2	8.259	3.501*	(2/961)
AB	18.136	4	4.534	1.922!	(4/961)
Error	2267.251	961	2.359		

**significant at .022
*significant at .030
!not significant

Table E.30 Summary table of analysis of variance with traditional female role orientation and egalitarian attitudes. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Female role)	20.707	2	10.354	4.390*	(2/961)
B (Egal. attitudes)	33.489	2	16.744	7.100**	(2/961)
AB	3.467	4	0.867	0.368!	(4/961)
Error	2246.479	961	2.358		

**significant at .001
*significant at .013
!not significant

Table E.31 Summary table of analysis of variance with traditional female role orientation and traditional childbearing motivation. Criterion variable: wanted compleced fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Female role)	31.343	2	15.672	6.598*	(2/961)
B (Childbearing)	4.378	2	2.189	0.922!	(2/961)
AB	16.634	4	4.159	1.751!	(4/961)
Error	2282.424	961	2.375		

*significant at .002
!not significant

Table E.32 Summary table of analysis of variance with traditional female role orientation and traditional sex preferences in children. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Female role)	43.059	2	21.529	9.077**	(2/961)
B (Sex preferences)	18.486	2	9.243	3.897*	(2/961)
AB	5.617	4	1.404	0.592!	(4/961)
Error	2279.333	961	2.372		

**significant at .001
*significant at .020
!not significant

Table E.33 Summary table of analysis of variance with tolerance of large families and traditional childbearing motivation. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Large families)	108.959	2	54.479	23.620*	(2/961)
B (Childbearing)	1.909	2	0.954	0.414!	(2/961)
AB	4.911	4	1.228	0.532!	(4/961)
Error	2216.531	961	2.306		

*significant at .001
!not significant

Table E.34 Summary table of analysis of variance with tolerance of large families and traditional sex preferences in children. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Large families)	114.978	2	57.489	25.005**	(2/961)
B (Sex preferences)	10.321	2	5.161	2.245!	(2/961)
AB	3.608	4	0.902	0.392!	(4/961)
Error	2209.421	961	2.299		

**significant at .001
!not significant

Table E.35 Summary table of analysis of variance with egalitarian attitudes and traditional childbearing motivation. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Egal. attitudes)	41.843	2	20.921	8.871**	(2/961)
B (Childbearing)	2.096	2	1.048	0.444!	(2/961)
AB	22.127	4	5.532	2.346*	(4/961)
Error	2266.431	961	2.358		

**significant at .001
*significant at .052
!not significant

Table E.36 Summary table of analysis of variance with egalitarian attitudes and traditional sex preferences in children. Criterion variable: wanted completed fertility 1.

Source of variance	S.S.	df	M.S.	F	df
A (Egal. attitudes)	52.991	2	26.495	11.258**	(2/961)
B (Sex preferences)	15.637	2	7.819	3.322*	(2/961)
AB	13.223	4	3.306	1.405!	(4/961)
Error	2261.794	961	2.354		

**significant at .001
*significant at .036
!not significant

Table E.37 Summary table of analysis of variance with cohort and mother role orientation. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	78.343	6	13.057	5.347**	(6/716)
B (Mother role)	14.449	2	7.225	2.959*	(2/716)
AB	34.973	12	2.914	1.194!	(12/716)
Error	1743.302	716	2.442		

**significant at .001
*significant at .051
!not significant

Table E.38 Summary table of analysis of variance with cohort and traditional female role orientation. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	88.343	6	14.724	5.590*	(6/716)
B (Female role)	1.378	2	0.689	0.278!	(2/716)
AB	24.516	12	2.043	0.826!	(12/716)
Error	1771.831	716	2.475		

*significant at .001
!not significant

Table E.39 Summary table of analysis of variance with cohort and tolerance of large families. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	82.764	6	13.794	5.709*	(6/716)
B (Large families)	49.056	2	24.528	10.152*	(2/716)
AB	18.690	12	1.558	0.645!	(12/716)
Error	1729.978	716	2.416		

*significant at .001
!not significant

Table E.40 Summary table of analysis of variance with cohort and egalitarian attitudes. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	79.623	6	13.271	5.417**	(6/716)
B (Egal. attitudes)	19.357	2	9.679	3.951*	(2/716)
AB	24.272	12	2.023	0.826!	(12/716)
Error	1754.095	716	2.450		

**significant at .001
*significant at .019
!not significant

Table E.41 Summary table of analysis of variance with cohort and traditional childbearing motivation. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	91.150	6	15.192	6.243**	(6/716)
B (Childbearing)	7.368	2	3.684	1.514!	(2/716)
AB	47.968	12	3.997	1.643*	(12/716)
Error	1742.389	716	2.434		

**significant at .001
*significant at .075
!not significant

Table E.42 Summary table of analysis of variance with cohort and traditional sex preferences in children. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Cohort)	93.875	6	15.646	6.329*	(6/716)
B (Sex preferences)	3.014	2	1.507	0.610!	(2/716)
AB	24.626	12	2.502	0.830!	(12/716)
Error	1770.084	716	2.472		

*significant at .001
!not significant

Table E.43 Summary table of analysis of variance with mother role orientation and tolerance of large families. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Mother role)	4.013	2	2.006	0.762!	(2/961)
B (Large families)	78.111	2	39.055	14.838*	(2/961)
AB	7.527	4	1.882	0.715!	(4/961)
Error	2529.489	961	2.682		

*significant at .001
!not significant

Table E.44 Summary table of analysis of variance with mother role orientation and egalitarian attitudes. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Mother role)	11.389	2	5.695	2.121!	(2/961)
B (Egal. attitudes)	29.176	2	14.588	5.432*	(2/961)
AB	5.336	4	1.334	0.497!	(4/961)
Error	2580.615	961	2.685		

*significant at .005
!not significant

Table E.45 Summary table of analysis of variance with mother role orientation and traditional childbearing motivation. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Mother role)	16.126	2	8.063	2.972*	(2/961)
B (Childbearing)	1.021	2	0.510	0.188!	(2/961)
AB	6.544	4	1.636	0.603!	(4/961)
Error	2607.561	961	2.713		

*significant at .050
!not significant

Table E.46 Summary table of analysis of variance with mother role orientation and traditional sex preferences in children. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Mother role)	22.147	2	11.073	4.135*	(2/961)
B (Sex preferences)	25.887	2	12.944	4.834**	(2/961)
AB	15.812	4	3.953	1.476!	(4/961)
Error	2573.427	961	2.678		

**significant at .008
*significant at .016
!not significant

Table E.47 Summary table of analysis of variance with mother role orientation and traditional female role orientation. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Mother role)	11.038	2	5.519	2.045!	(2/961)
B (Female role)	3.353	2	1.677	0.621!	(2/961)
AB	18.412	4	4.603	1.706!	(4/961)
Error	2593.361	961	2.699		

!not significant

Table E.48 Summary table of analysis of variance with traditional female role orientation and egalitarian attitudes. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Female role)	3.857	2	1.929	0.715!	(2/961)
B (Egal. attitudes)	29.329	2	14.665	5.438*	(2/961)
AB	1.821	4	0.455	0.169!	(4/961)
Error	2591.661	961	2.697		

*significant at .005
!not significant

Table E.49 Summary table of analysis of variance with traditional female role orientation and traditional childbearing motivation. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Female role)	9.084	2	4.542	1.672!	(2/961)
B (Childbearing)	1.664	2	0.832	0.306!	(2/961)
AB	11.375	4	2.844	1.047!	(4/961)
Error	2609.772	961	2.716		

!not significant

Table E.50 Summary table of analysis of variance with traditional female role orientation and traditional sex preferences in children. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Female role)	14.426	2	7.213	2.674*	(2/961)
B (Sex preferences)	25.852	2	12.926	4.792**	(2/961)
AB	4.906	4	1.227	0.455!	(4/961)
Error	2592.053	961	2.697		

**significant at .009
*significant at .068
!not significant

Table E.51 Summary table of analysis of variance with tolerance of large families and traditional childbearing motivation. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Large families)	94.988	2	47.494	18.051*	(2/961)
B (Childbearing)	5.785	2	2.892	1.099!	(2/961)
AB	6.702	4	1.676	0.637!	(4/961)
Error	2528.541	961	2.631		

*significant at .001
!not significant

Table E.52 Summary table of analysis of variance with tolerance of large families and traditional sex preferences in children. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Large families)	88.785	2	44.393	16.923**	(2/961)
B (Sex preferences)	18.428	2	9.214	3.512*	(2/961)
AB	1.660	4	0.415	0.158!	(2/961)
Error	2520.940	961	2.623		

**significant at .001
*significant at .030
!not significant

Table E.53 Summary table of analysis of variance with egalitarian attitudes and traditional childbearing motivation. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Egal. attitudes)	33.052	2	16.526	6.152*	(2/961)
B (Childbearing)	0.160	2	0.080	0.030!	(2/961)
AB	15.535	4	3.884	1.446!	(4/961)
Error	2581.644	961	2.686		

*significant at .002
!not significant

Table E.54 Summary table of analysis of variance with egalitarian attitudes and traditional sex preferences in children. Criterion variable: wanted completed fertility 2.

Source of variance	S.S.	df	M.S.	F	df
A (Egal. attitudes)	38.412	2	19.206	7.224**	(2/961)
B (Sex preferences)	24.365	2	12.183	4.582*	(2/961)
AB	18.017	4	4.504	1.694!	(4/961)
Error	2554.957	961	2.659		

**significant at .001
*significant at .010
!not significant

APPENDIX F

GAFS QUESTIONNAIRE: THE GROWTH OF ALBERTA FAMILIES STUDY, POPULATION RESEARCH LABORATORY, THE UNIVERSITY OF ALBERTA

Address: ______________________________

____

Sample Number: ___ - ___ - ___ - ___ - ___
E.D. E.A. No. FA MH

Is this address live? ______________
Or dead? __________

How many Households are there at this address? ______________

Time: Entered household: __________

Begin interview: __________

Next Address: ______________________

____

Is the next address reasonable:

____

(If not, record details on back page under COMMENTS.)

How many Found Addresses are there?

____

HOUSEHOLD LIST:

	First Name	Relationship	Age	Sex	Marital Status	Mother Alive	Father Alive	Eligi-bility	Selec-tion No. *
1				M F	NM M S D W	Y N	Y N		
2				M F	NM M S D W	Y N	Y N		
3				M F	NM M S D W	Y N	Y N		
4				M F	NM M S D W	Y N	Y N		
5				M F	NM M S D W	Y N	Y N		
6				M F	NM M S D W	Y N	Y N		
7				M F	NM M S D W	Y N	Y N		
8				M F	NM M S D W	Y N	Y N		
9				M F	NM M S D W	Y N	Y N		
10				M F	NM M S D W	Y N	Y N		

* CIRCLE THE SELECTED NUMBER

Selection Table Number __________

Type: only long form 1
mail-back 2
Random response 3

"First of all I would like to ask you some questions about your background".

ALL RESPONDENTS

1. In what year were you born? ________

2. What province or country were you born in?

01 Nfld.	05 Que.	09 Alta.	
02 P.E.I.	06 Ont.	10 B.C.	
03 N.S.	07 Man.	11 Yukon	
04 N.B.	08 Sask.	12 N.W.T.	SKIP TO Q 4
13 U.K.	16 Poland	19 France	
14 Germ.	17 Ireland	20 Ukraine	
15 Italy	18 U.S.A.		

Other ________________(specify)

3. In what year did you first immigrate to Canada? 19______

4. Were your parents born in Canada?

1. Both were 3. Mother only
2. Neither were 4. Father only

5. How long have you lived in Edmonton? SKIP TO Q8 - - - - All life ___
# of yrs.__________

6. Just before you moved to Edmonton did you live in a

Rural community or farm	1
Town	2
City	3

7. Where did you live most of the time while you were growing up (Say up to age 12)? In a

Rural community or farm	1
Town	2
City	3

8. How many sons and daughters did your parents have? IF ONE SKIP TO Q 10 — Sons ____________ Daughters 1+ ________

9. Were you the oldest, second oldest...? ____________

10. What is your present marital status? (READ CATEGORIES)

1. Single
2. Separated
3. Widowed
4. Married or living with someone
5. Divorced

IF 4, CIRCLE APPROPRIATE CATEGORY

11. Have you ever been gainfully employed?

	Yes	1
SKIP TO Q 13 - - - - - - - - -	No	2

12. I would like to make a list of all the regular jobs that you have held and that have lasted more than six months.

job no.	(i) What kind of job was it?	(ii) What date did you begin? What date did you leave? *				SPACE RESERVED FOR CODING	(iii) Was it full time or part-time?	
		FROM		TO				
		month	year	month	year			
1							FT	PT
2							FT	PT
3							FT	PT
4							FT	PT
5							FT	PT
6							FT	PT
7							FT	PT
8							FT	PT
9							FT	PT
10							FT	PT
11							FT	PT

* IF RESPONDENT UNABLE TO RECALL DATES ASK THE DURATION OF THE JOB AND RECORD IT

CONTINUE OVERLEAF IF NECESSARY

SKIP TO Q 14 IF R CURRENTLY WORKING

13. Are you now:

	a housewife	1
	a student	2
	unemployed	3
	an unpaid family worker	4

Other ____________________(specify)

14. Would you prefer:

	to be working now	1
or	not working	2
	no preference	3

15. Suppose a woman is offered a good job and can arrange to have her children cared for adequately, what age should her youngest child be before she takes the job on a full time basis?

Age ________________

16. What age should her child be before she takes the job on a part time basis?

Age ________________

17. What is the highest grade or year of elementary or secondary school you ever attended?

SKIP TO Q 19 - - - None 0

Yr or Grade 1 2 3 4 5
6 7 8 9 10
11 12 13

18. How many years of schooling have you had since (elementary or secondary) school?

University 0 1 2 3 4 5 6

Other 0 1 2 3 +

19. What is the main source from which you usually learn of national and world news? (READ CATEGORIES)

1. T.V.
2. Newspaper
3. Radio
4. Friends
5. Magazines

Other ________________(specify)

20. Which do you consider most trustworthy? (use previous codes or specify other) One choice only.

____

____

21. What is your religion or denomination?

01 Anglican	07 Pentecostal	
02 Baptist	08 Presbyterian	
03 Greek Orthodox	09 Roman Catholic	
04 Jewish	10 Salvation Army	
05 Lutheran	11 Ukrainian Catholic	
06 Mennonite	12 United Church	IF NONE
00 None Other	______________(specify)	SKIP TO Q 23

22. In the last month how often did you attend religious services (other than weddings, funerals, etc.)? # of times __________

23. To what ethnic or cultural group did you or your ancestor (on the male side) belong on coming to this continent?

01 English	08 Native Indian Non-Band
02 French	09 Netherlands
03 German	10 Norwegian
04 Irish	11 Polish
05 Italian	12 Scottish
06 Jewish	13 Ukrainian
07 Native Indian Band	

Other (specify) ______________________

24. Was your mother of the same ethnic or cultural group?

Yes 1
No 2

If not, of which group was she? ____________________

25. What language do you speak at home now?

01 English	06 Hungarian
02 French	07 Dutch
03 German	08 Polish
04 Indian	09 Ukrainian
05 Italian	10 Yiddish

Other (specify) ______________________

26. In what other languages can you converse (use above coding and/or specify other) ________________ ____________________

____

"The next group of questions deals with the children you have or might like to have"

27.	First of all, have you ever adopted any children or do you have any step children?		Yes	1
		SKIP TO INSTRUCTIONS- - - - - - PRECEEDING Q 29	No	2

28. What were (his/her/their) age(s) on (his/her/their) last birthday? ________________

NOTE: IF THE RESPONDENT IS SINGLE, AND WHEN MAIL-BACK OR RANDOM RESPONSE QUESTIONNAIRE IS USED SKIP TO Q 30

29.	Are you or have you ever been pregnant?	SKIP TO Q 31 - - - - - - - - - - -	Yes	1
			No	2

IF R HASN'T ADOPTED CHILDREN AND HAS NEVER BEEN PREGNANT ASK:

30.	Do you want to have children eventually?	SKIP TO Q 105 - - - - - - - - - -	Yes	1
		SKIP TO Q 113 - - - - - - - - - -	No	2
		SKIP TO Q 113 - - - - - - - - - -	Don't know	3

31. How many children of your own - those that you have actually borne - now live with you in your own household? ________

32. How many of your children now live somewhere else? ________

33. How many of your own children have died? ________

IF RESPONDENT HAS NO LIVING CHILDREN, GO TO Q 54

"I want to make a list of the names of all these children, in order from eldest to youngest whether they now live with you or somewhere else."

CHILD LIST

	ELDEST				YOUNGEST
34. What is the name of your (eldest--) child?	______	______	______	______	______
35. (If not obvious) Is that a girl or a boy?	M F	M F	M F	M F	M F
36. In what month and year was he/she born?	19____	19____	19____	19____	19____
37. How old was he/she on his/her last birthday?	Yrs.	Yrs.	Yrs.	Yrs.	Yrs.
38. How much did he/she weigh at birth?	______	______	______	______	______
CODES	______	______	______	______	______
39. What was the length of pregnancy?	______	______	______	______	______
CODES	______	______	______	______	______
40. Would you have preferred this child 1. Earlier 2. Later 3. Same time 4. Not at all.	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
41. Would your husband/partner have preferred this child 1. Earlier 2. Later 3. Same time 4. Not at all.	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
42. Did you breast feed him/her?	Y N	Y N	Y N	Y N	Y N
43. IF YES: to Q 42 For how many months?	______	______	______	______	______
44. Did you smoke during the pregnancy?	Y N	Y N	Y N	Y N	Y N
45. Did you become pregnant while using some method of birth control?	Y N	Y N	Y N	Y N	Y N
46. IF YES: to Q 45 What method of birth control? SKIP TO Q 49	______	______	______	______	______
47. IF NO: to Q 45 Did you stop using a method to become pregnant?	Y N	Y N	Y N	Y N	Y N
48. IF YES: to Q 47 How many months did it take to become pregnant after you had stopped?	Mons.	Mons.	Mons.	Mons.	Mons.
49. Is that child living with you now?	Y N	Y N	Y N	Y N	Y N
50. Was there any time you were pregnant before the pregnancy resulting in (name of the eldest)? How many times?	Y N ____ #				
51. Was there any time you were pregnant between ____ and ____? (Ask of each successive pregnancy.) How many times?		Y N ____ #	Y N ____ #	Y N ____ #	Y N ____ #
52. Was there any time you were pregnant since the birth of __________ (name of youngest)? How many times?					Y N ____ #

IF NO OTHER PREGNANCIES SKIP TO Q 68

53. TOTAL OF OTHER PREGNANCIES ____________

"Now I would like to ask detailed questions about each of these other pregnancies."

IF RESPONDENT HAS NO LIVE CHILDREN, ASK Q 54. IF R HAS LIVE CHILDREN SKIP TO Q 55.

54. How many times have you been pregnant? ______

LIST OF OTHER PREGNANCIES

		First	Second	Third	Fourth	Fifth	Sixth
55. Did the (1st ...) pregnancy occur while using some method of birth control?		Y N	Y N	Y N	Y N	Y N	Y N
56. If Yes: What method?		____	____	____	____	____	____
57. If No: Did you stop using a method to become pregnant?		Y N	Y N	Y N	Y N	Y N	Y N
58. If yes to Q 57. How many months did it take you to become pregnant?		Mons.	Mons.	Mons.	Mons.	Mons.	Mons.
59. In what month and year did the 1st ...) pregnancy end? (If pregnancy is current ask when baby is due and GO ON TO Q 68)		Mon. 19__	Mon. 19__	Mon. 19__	Mon. 19__	Mon. 19__	Mon. 19__
60. What was the length of the pregnancy?		____	____	____	____	____	____
	CODES	____	____	____	____	____	____
61. Did you have a baby then, i.e., did it cry after birth? If No Skip to instructions preceeding Q 67		Y N	Y N	Y N	Y N	Y N	Y N
62. Was it a boy or a girl?		M F	M F	M F	M F	M F	M F
63. How much did the child weigh at birth?		____	____	____	____	____	____
	CODES	____	____	____	____	____	____
64. How old was he/she when he/she died?		Mo/Yrs	Mo/Yrs	Mo/Yrs	Mo/Yrs	Mo/Yrs	Mo/Yrs
65. Would you have preferred this pregnancy: 1. Earlier 2. Later 2. Same time 3. Not at all?		1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
66. Would your husband/partner have preferred this pregnancy: 1. Earlier 2. Later 3. Same time 4. Not at all?		1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4

SKIP TO Q 68

NOTE: WHEN USING MAIL-BACK OR RANDOM RESPONSE QUESTIONNAIRE, OMIT Q 67.

	First	Second	Third	Fourth	Fifth	Sixth
67. What caused the loss of the pregnancy (miscarriage, stillbirth, abortion)?	M S A	M S A	M S A	M S A	M S A	M S A

FOR EVER MARRIED WOMEN OR LIVING WITH SOMEONE. (IF SINGLE AND PREGNANT SKIP TO Q 70. IF SINGLE AND NOT PREGNANT SKIP TO Q 82.)

68.	Did you ever live separated from your husband/partner during your marriage(s) for a period longer than 3 months?		Yes	1
		SKIP TO INSTRUCTIONS PRECEEDING Q 70 - - - - - -	No	2

69. For what period?

From	To
_______19__	_______19__
_______19__	_______19__
_______19__	_______19__
_______19__	_______19__

ASK QQ 70 TO 81 IF R IS CURRENTLY PREGNANT (AS INDICATED BY Q 59)

70.	Are you hoping for a girl or a boy?		Girl	1
			Boy	2
			Either	3
71.	Is your husband/partner hoping for a girl or a boy?		Girl	1
			Boy	2
			Either	3
72.	How many more children do you want to bear in addition to the one you are now expecting?	IF NONE SKIP TO Q 74 - - -	____________	
73.	How many years from now do you want to have your next child?	SKIP TO Q 79 - - -	____________	
74.	Would you have more children if day care services were inexpensive and readily available?		Yes	1
			No	2
			Don't know	3
75.	Would you have more children if your annual income was increased by $2,000 (that is without a raise in taxes or increased working hours)?	SKIP TO Q 77 - - -	Yes	1
			No	2
			Don't know	3

76.	What would you now do with the extra money? 01 buy a car 02 go on a vacation 03 invest or save the money 04 pay debts Other ______________	______________	
77.	Would you have preferred to have borne fewer children?	Yes SKIP TO Q 79 - - - - - - - - - - No	1 2
78.	How many in all would you like to have borne?	______________	
79.	How many (more) children do you think your husband/partner wants you to bear in addition to the one you are now expecting?	IF ONE OR MORE SKIP TO Q 101 ______________	
80.	Would he prefer you to have borne fewer children in all?	Definitely yes Probably yes SKIP TO Q 101 - - - Probably no SKIP TO Q 101 - - - Definitely no SKIP TO Q 101 - - - Don't know	1 2 3 4 5
81.	How many would he prefer you to have borne?	SKIP TO Q 101 - - - ______________	

FOR RESPONDENTS WHO ARE NOT CURRENTLY PREGNANT

82.	Have you had an operation which makes it impossible for you to become a mother in the future?	Yes SKIP TO Q 85 - - - - - - - - - - No	1 2
83.	In what year did that operation occur?	19_____	
84.	Was that operation done at least partly so that you would never become pregnant again?	SKIP TO Q 86 IF CURRENTLY MARRIED OR SKIP TO Q 105 IF NOT CURRENTLY MARRIED - - Yes - - No	1 2

85.	Some women are unable to have a child because they have some physical or medical problem or perhaps because they have reached their change of life. Do you think this may be the case for you?	SKIP TO Q 105 IF NOT CURRENTLY MARRIED OR NOT LIVING WITH SOMEONE	Yes	1
			No	2
			Uncertain	3

FOR RESPONDENTS CURRENTLY MARRIED (OR LIVING WITH SOMEONE) AND NOT PREGNANT

86.	Has your husband/partner ever had an operation which makes it impossible for him to become a father in the future?		Yes	1
		SKIP TO INSTRUCTIONS PRECEEDING Q 89 - - - - - - - -	No	2
87.	What was the year of that operation?		19______	
88.	Was that operation done at least partly so you would never become pregnant again?	SKIP TO Q 96 - - - - - - - - - -	Yes	1
		SKIP TO Q 96 - - - - - - - - - -	No	2

IF RESPONDENT AND HUSBAND/PARTNER ARE BOTH ABLE TO HAVE CHILDREN (NO TO Q 82 + 86) ASK: QQ 89 - 100. IF ONE OR BOTH ARE NOT ABLE TO HAVE CHILDREN SKIP TO Q 101.

89.	Do you want to give birth to (a, another) child?		Yes	1
		SKIP TO Q 93 - - - - - - - - - -	No	2
		SKIP TO Q 93 - - - - - - - - - -	Don't know	3
90.	Would you prefer a girl or a boy (next time)?		Girl	1
			Boy	2
			Either	3
91.	How many (more) children would you like to have?		______________	
92.	How many years from now do you want to have the (next) one?	SKIP TO Q 98 - - -	______________	

93.	Would you have (more) children if day care services were inexpensive and readily available?		Yes No Don't know	1 2 3
94.	Would you have (more) children if your annual income was increased by $2,000 (that is without a raise in taxes or increased working hours)?	SKIP TO Q 96 - - -	Yes No Don't know	1 2 3
95.	What would you now do with the extra money? 01 buy a car 02 go on a vacation 03 invest or save the money 04 pay debts Other ________________			
96.	Would you prefer to have borne <u>fewer</u> children?	 SKIP TO Q 98 - - - - - - - - - -	Yes No	1 2
97.	How many in all would you like to have borne?		________________	
98.	How many (more) children do you think your husband/partner wants you to give birth to?		________________	
99.	Would he prefer you to have borne <u>fewer</u> children in all?	 SKIP TO Q 101 - - - SKIP TO Q 101 - - - SKIP TO Q 101 - - -	Definitely yes Probably yes Probably no Definitely no Don't know	1 2 3 4 5
100.	How many would he prefer you to have borne?		________________	

FOR MARRIED (OR LIVING WITH SOMEONE), SEPARATED, DIVORCED, OR WIDOWED RESPONDENTS (PREGNANT OR NOT)

101.	If you could start life over again, at what age would you prefer to marry (or begin living with someone)?	________________

102. Did you have any idea about how many children you wanted when you first married?		Yes	1
	SKIP TO Q 104 - - -	No	2
	SKIP TO Q 104 - - -	Can't remember	3

103. How many girls and how many boys did you want?

Girls ____________
Boys ____________
Either ____________

104. Did you have any discussion at the time of your marriage with your (present/last) husband on the number of children he wanted?	Yes	1
	No	2
	Can't remember	3

105. If you could now choose exactly the number of children to have altogether in your lifetime, how many girls and how many boys would you choose?

Girls ____________
Boys ____________
Either ____________

106. How many girls and boys do you think your (present/last) husband/partner would choose?

Girls ____________
Boys ____________
Either ____________

107. Sometime soon couples will be able to choose in advance whether they would like to give birth to a boy or a girl. Would you like to do this?	Yes	1
	No	2
	Don't know	3

108. What do you think is the desirable number of children for people in your social and economic circumstances? ____________

109. What do you think is the ideal age for a woman to have her first child? ____________

110. And what is the ideal age for her to have her last child? ____________

111. In your opinion how many years or months should there ideally be between children? (If different times given take average).

Years ____________
Mons. ____________

112. Do you expect to live with one of your children in your old age?

Yes	1
No	2
Don't know	3

ALL RESPONDENTS

113. Who do you feel should decide the number of children a woman will have?

Woman	1
Husband or partner	2
Both	3
Will happen without decision	4

Other (specify) ____________________

114. What do you think is the ideal number of children for the average Canadian family today? ____________________

115. How many children would there be in a Canadian family before you would say there are too many? ____________________

116. What is your attitude towards couples that decide not to have children?

Understanding	1
Envy	2
No opinion	3
Disapproval	4

Other ______________________________

____

117. Many couples use some method of birth control to delay or prevent a pregnancy. Do you approve or disapprove of such conduct?

	Approve	1
SKIP TO Q 119 - - -	Disapprove	2
SKIP TO Q 121 - - -	Neither approve or disapprove	3

118. Here is a card with two lists of reasons. Which is the most important reason for your approval in each list?

So that the couple can have the number of sons and daughters they want	1	Small population is good for Canada	6
The couple does not want to have children	2	The government will not have to build as many schools and hospitals	7
So that the woman can work	3	Our natural resources will last longer	8
So that the couple can have their children when they want them	4	Less unemployment with fewer labourers	9
Health of the mother	5	Human beings ought to be able to decide their fate themselves	10
Other ______________________	SKIP TO Q 121	Other ______________________	

119. Here is a card with two lists of reasons. Which is the most important reason for your disapproval in each list?

Against religion	1	Large population good for Canada	7
Immoral	2	We need people to develop Canada's natural resources	8
Harmful to health	3	Industries are more efficient when producing for a larger population	9
Too much trouble	4	Less unemployment with more consumers	10
Too expensive	5	Other ______________________	
Large family desirable	6		
Other ______________________			

120. Do you approve of the rhythm method?

Yes	1
No	2
Don't know	3

IF R IS NOT MARRIED OR LIVING WITH SOMEONE SKIP TO Q 122

121. Does your husband/partner approve or disapprove of birth control?

Approve	1
Disapprove	2
Don't know	3

122. When do you think is the greatest risk of getting pregnant during the menstrual cycle?

(CIRCLE AS MANY AS GIVEN BY R)

During menstruation	1
During the days preceeding menstruation	2
During the days after menstruation	3
During the mid period of cycle	4
Don't know	5

RECORD ANSWERS FOR QQ 123, 124, 126 IN CONTRACEPTIVE CHART BELOW

123. What methods have you heard about that are used by couples to delay or prevent pregnancy?

124. "Here is a card with the names of methods couples use to delay or prevent having a child."

Which methods do you know how to use? You may tell me by number if you wish.

125. In your opinion which method is the most effective (other than abstinence)? One choice. ____________________

126. What method or methods do you think you or your partner may use in the future?

CONTRACEPTIVE CHART

Method	Q 123 Heard About	Q 124 Know How to Use	Q 126 Future Use
1. Abstinence	1	1	1
2. Rhythm (safe period)	2	2	2
3. Withdrawal	3	3	3
4. Douche	4	4	4
5. Breast feeding	5	5	5
6. Condom (safe)	6	6	6
7. Diaphragm (cap)	7	7	7
8. Foam	8	8	8
9. Jelly or Cream	9	9	9
10. Suppositories	10	10	10
11. Tampon or Sponge	11	11	11
12. IUD (coil, loop, etc.)	12	12	12
13. Pill	13	13	13
14. Injection	14	14	14
15. Male sterilization (vasectomy)	15	15	15
16. Female sterilization (tubal ligation)	16	16	16
17. Abortion	17	17	17
18. Other ____________ (specify) ____________	18	18	18
19. None	19	19	19

NOTE: IF THE RESPONDENT IS SINGLE AND WHEN USING THE RANDOM RESPONSE OR MAIL-BACK QUESTIONNAIRE, SKIP TO Q 130.

127. Using the same list of contraceptive methods please tell me what methods you or your partner used during the following years and what methods you are presently using. Again you can tell me by number.

(HAND R CHART OF YEARS AND RECORD ANSWERS ON USAGE CHART)

USAGE CHART

Between Event and Event	____	____	____	____	____	____	____	____
(Code)	____	____	____	____	____	____	____	____
Method	1933-1944	1945-1954	1955-1959	1960-1964	1965-1967	1968-1969	1970-1971	1972-Current
1. Abstinence	1	1	1	1	1	1	1	1
2. Rhythm (safe period)	2	2	2	2	2	2	2	2
3. Withdrawal	3	3	3	3	3	3	3	3
4. Douche	4	4	4	4	4	4	4	4
5. Breast feeding	5	5	5	5	5	5	5	5
6. Condom (safe)	6	6	6	6	6	6	6	6
7. Diaphragm	7	7	7	7	7	7	7	7
8. Foam	8	8	8	8	8	8	8	8
9. Jelly or Cream	9	9	9	9	9	9	9	9
10. Suppositories	10	10	10	10	10	10	10	10
11. Tampon or Sponge	11	11	11	11	11	11	11	11
12. IUD (coil, loop, etc.)	12	12	12	12	12	12	12	12
13. Pill	13	13	13	13	13	13	13	13
14. Injection	14	14	14	14	14	14	14	14
15. Male Sterilization (vasectomy)	15	15	15	15	15	15	15	15
16. Female sterilization (tubal ligation)	16	16	16	16	16	16	16	16
17. Abortion	17	17	17	17	17	17	17	17
18. Other ____________ ____________(specify)	18	18	18	18	18	18	18	18
19. None used	19	19	19	19	19	19	19	19

IF NO METHOD EVER USED SKIP TO Q 130

128. In cases where R has replied that she and/or her partner has used more than one method in any time interval ask:

During ____________ (insert appropriate years) which method was used the most?

(Record answers by circling the method twice in the usage chart.)

129. For each method that R has stopped using ask for each:

	Method	Reasons (use codes or specify other)
Why did you stop using	______	______
Why did you stop using	______	______
Why did you stop using	______	______
Why did you stop using	______	______
Why did you stop using	______	______

Reasons:

01 To become pregnant
02 Heard about side effects
03 Experienced side effects
04 Inconvenient for me
05 Inconvenient for partner
06 Menopause
07 Sterility
08 Religious reasons
09 Moral reasons
10 Not having intercourse
11 Concern with effectiveness
12 Doctor's recommendation

IF R NO LONGER NEEDS BIRTH CONTROL (i.e. because of sterilization, menopause, etc.) SKIP TO Q 138

IF R HAS NOT USED THE PILL ASK:

130. Would you consider using the pill?

SKIP TO Q 132 - - -	Don't know	1
SKIP TO Q 132 - - -	Yes	2
	No	3

131. Why not?

Hazardous to health	1
Moral or religious reasons	2
Inconvenient to use	3

Other ______

______(specify)

IF R HAS NOT USED THE IUD ASK

132. Would you consider using the IUD if it were inexpensive and easy to obtain?	SKIP TO Q 134 - - -	Don't know	1
	SKIP TO Q 134 - - -	Yes	2
		No	3

133. Why not?	Hazardous to health	1
	Moral or religious reasons	2
	Inconvenient to use	3

Other ______________________

______________________(specify)

134. Would you consider having your tubes tied if this were easy and inexpensive to have done?	SKIP TO Q 136 - - -	Don't know	1
	SKIP TO Q 136 - - -	Yes	2
		No	3

135. Why not?	Hazardous to health	1
	Moral or religious reasons	2
	Might want more children later	3
	Interfere with sexual relations	4

Other ______________________

______________________(specify)

IF MARRIED OR LIVING WITH SOMEONE ASK: Q 136. IF NOT SKIP TO Q 138

136. Would your partner consider having an operation to prevent pregnancy?	SKIP TO Q 138 - -	Don't know	1
	SKIP TO Q 138 - -	Yes	2
		No	3

137. Why not?	Hazardous to health	1
	Moral or religious reasons	2
	Might want more children later	3
	Interfere with sexual relations	4

Other ______________________

______________________(specify)

138. Where do you obtain most of your information on birth control? One choice.

01 Mother
02 Father
03 Husband or partner
04 Other relatives
05 School
06 Friends & Neighbors
07 Doctor or Nurse
08 Family Planning or Birth Control Clinic
09 Marriage Advisory Centre
10 Religious Advisory Committee
11 Newspapers or Magazines
12 Books
13 Radio
14 T.V.
15 Films
16 No Information
Other ____________________

139. If a couple decides on sterilization in order to prevent unwanted children should it be the man or the woman who gets sterilized?

Man	1
Woman	2
Don't know	3
Not applicable	4

140. Do you think that our government should make it their business to spread birth control information?

Yes	1
No	2
Don't know	3

141. Do you think our government should help make contraception available to people who want it?

Yes	1
No	2
Don't know	3

142. Do you think the government of Canada should help other countries with their birth control programs if they ask us?

Yes	1
No	2
Don't know	3

143. Do you think the government of Canada should only give aid to those countries that have birth control programs?

Yes	1
No	2
Don't know	3

144.	Do you think we should change our laws to discourage couples from having large families? For example, laws referring to income tax exemptions, family allowance and housing priorities.	Yes No Don't know	1 2 3
145.	Should our laws be changed to improve living conditions for larger families?	Yes No Don't know	1 2 3
146.	Do you believe birth control education should be given in high schools?	Yes No Don't know	1 2 3
147.	Do you feel that contraceptives should be made readily available to unmarried persons age 18 or more?	Yes No Don't know	1 2 3
148.	To those aged 16 to 18?	Yes No Don't know	1 2 3
149.	What is your general feeling toward an unmarried woman who has a child and keeps it? Other ____________________	Sympathy Support Condemnation Indifference	1 2 3 4
150.	What is your general feeling toward an unmarried woman who has a child and gives it up for adoption? Other ____________________	Sympathy Support Condemnation Indifference	1 2 3 4
151.	Have you ever personally known: an unmarried woman who has had a child and kept it?	Yes No	1 2
152.	And an unmarried woman who has had a child and given it up for adoption?	Yes No	1 2
153.	Should there be additional taxation exemptions in order to make the lot of a single parent easier?	Yes No Don't know	1 2 3

154. As you know, many women choose to end a pregnancy by having an abortion. Out of 100 women you might see on the street, about how many of them would you guess have wanted at some time to get an abortion? (ALSO WRITE ANSWER INTO BLANK IN Q 155) ______________

155. About how many of these ______ women would you guess have actually had an abortion? ______________

156. Do you think that there should be a law which prohibits abortion - the deliberate interruption of a pregnancy - except when the woman's life is in danger, or do you think that women should be able to obtain a legal abortion if they want one?

Law prohibiting abortion	1
Be able to obtain a legal abortion	2

Other ______________________________

______________________________(specify)

157. If you became pregnant and abortions were legal and available would you have an abortion under the following conditions?

	Yes	No	Don't Know
- if the pregnancy seriously endangered your physical health?	1	2	3
- if the child was likely to be abnormal?	1	2	3
- if you were unmarried?	1	2	3
- if you had been raped?	1	2	3
- if you could not afford another child?	1	2	3
- if you had all the children you wanted?	1	2	3
- if it would interfere with your career?	1	2	3
- if your husband seriously objected to the child?	1	2	3

158. Do you think the government should help make abortion available to women who want it?

Yes under any circumstance	1
No under no circumstance	2
Don't know	3
Depends on circumstance	4

IF RESPONDENT WAS NEVER MARRIED AND NOT LIVING WITH SOMEONE SKIP TO Q 194

"I would now like to ask some questions about your present/last husband or partner."

159. In what year was your husband born? 19_______

160. What province or country was he born in?

01 Nfld.	05 Que.	09 Alta.	
02 P.E.I.	06 Ont.	10 B.C.	
03 N.S.	07 Man.	11 Yukon	SKIP TO
04 N.B.	08 Sask.	12 N.W.T.	Q 162
13 U.K.	16 Poland	19 France	
14 Germ.	17 Ireland	20 Ukraine	
15 Italy	18 U.S.A.		

Other _______________(specify)

161. In what year did he first immigrate to Canada? 19_______

162. Were your husband's parents born in Canada?

1. Both were
2. Neither were
3. Mother only
4. Father only

163. How long has/did he live(d) in Edmonton?

All life ___
# of yrs. ___________

164. How many sons and daughters did your husband's parents have?

Sons 1+_____________
Daughters _____________

165. What was the highest grade or year of elementary or secondary school your husband ever attended?

SKIP TO Q 167 - - - None 0
Yr. or Grade 1 2 3 4 5
6 7 8 9 10
11 12 13

166. How many years of schooling did he have since (elementary or secondary) school?

University 0 1 2 3 4 5 6 +

Other 0 1 2 3 +

EVER MARRIED RESPONDENTS

167. What is/was your husband's religion or denomination?

01 Anglican
02 Baptist
03 Greek Orthodox
04 Jewish
05 Lutheran
06 Mennonite
07 Pentecostal
08 Presbyterian
09 Roman Catholic
10 Salvation Army
11 Ukrainian Catholic
12 United Church
00 None
Other ____________________(specify)

168. To what ethnic or cultural group did your husband or his ancestor (on the male side) belong on coming to this continent?

01 English
02 French
03 German
04 Irish
05 Italian
06 Jewish
07 Native Indian-Band
08 Native Indian-Non-Band
09 Netherlands
10 Norwegian
11 Polish
12 Scottish
13 Ukrainian

IF RESPONDENT IS NOT CURRENTLY MARRIED ASK Q 169 AND 170. IF CURRENTLY MARRIED SKIP TO Q 171.

169. Here is a card showing amounts of income. Please indicate by number what group would apply to your income before taxes in 1973? ____________________

170. What was your or your family's annual income for each of the following years?

	Don't Know	Refused to Answer	Question Not Applicable	Own Income or Family Income	
1970 __________	1	2	3	OI	FI
1967 __________	1	2	3	OI	FI
1964 __________	1	2	3	OI	FI
1961 __________	1	2	3	OI	FI

SKIP TO Q 194

171. Is your husband gainfully employed at present? SKIP TO Q 173 - - Yes 1
No 2

172. Is he:
a student 1
unemployed 2
retired 3
an unpaid family worker 4

Other ________________(specify)

173. During the last twelve months how many weeks was he gainfully employed? ________________

174. What type of work does/did he do?

____
(obtain specific information)

____
(reserved for coding)

175. Here is a card showing amounts of income. Please indicate by number what group would apply to your husband's income before taxes in 1973?
____
Don't know 1
Refused to answer 2

176. What group would apply to your income before taxes in 1973?
____
Don't know 1
Refused to answer 2

177. Which group would the total income of your family fall into for 1973? (Before taxes)
____
Don't know 1
Refused to answer 2

178. What was your family's annual income for each of the following years?

		Don't Know	Refused to Answer	Question Not Applicable
1970	________	1	2	3
1967	________	1	2	3
1964	________	1	2	3
1961	________	1	2	3

179. When did you and your present husband or partner start living together? ______19____

180. How old were you at the time? ____________

181. How old was he at the time? ____________

182. Have you been married more than once?

	Yes	1
SKIP TO Q 190 - - -	No	2

183. How many times have you been married altogether? ____________

			First	Second	Third	Fourt
184.	When did your (1st, 2nd...) marriage begin?	Yr	19___	19___	19___	19___
185.	How old were you at that time?	Age	___	___	___	___
186.	How old was he at that time?	Age	___	___	___	___
187.	How did the marriage end? 1. Death 2. Divorce 3. Other		1 2 3	1 2 3	1 2 3	1 2 3
	If Death:					
188.	When did he die?	Yr	19___	19___	19___	19___
	If Divorce or Other:					
189.	When did you stop living together?	Yr	19___	19___	19___	19___

190. Suppose your husband/partner lost his job tomorrow and neither he nor you could find work for one month. Do you feel that you could manage to pay all your usual bills for that month out of the family savings?

Yes	1
No	2
Don't know	3

191. How often do you deny yourself and your family things you and they would like because of provisions you are making for the future? Would you say: (READ CATEGORIES)

Often	1
Sometimes	2
Seldom or Never	3

192.	How about your husband/partner, how often does he do this? Would you say: (READ CATEGORIES)	Often Sometimes Seldom or Never	1 2 3
193.	In general what kind of success do you feel you and your husband/partner are having financially? (READ CATEGORIES)	Very good Good Fair Poor	1 2 3 4

FOR ALL RESPONDENTS

194.	Would you (and your partner) be willing to provide the major source of financial support if your child was attending post secondary education?	SKIP TO Q 196 - - -	Yes No Don't know	1 2 3
195.	How much, if any, would you be willing to contribute?	IF NONE SKIP TO Q 197	__________	
196.	How long would you be willing to contribute this support?		__________ (Years)	
197.	Whatever it is you feel you want out of life, how closely do you feel that you are approaching it?		Very closely Fairly closely Only to some extent Not at all	1 2 3 4

OPINIONS

We would like to get your opinion on some matters concerning family life and the status and rights of women. Please tell me if you strongly agree, agree, don't know, disagree, or strongly disagree with the following statements. The first is:

		Strongly Agree	Agree	Depends on Circumstances Uncertain Don't Know (CIRCLE NUMBER)	Disagree	Strongly Disagree
198.	A man can make long range plans for his life, but a woman has to take things as they come.	1	2	3	4	5
199.	A pre-school child is likely to suffer if his mother works.	1	2	3	4	5
200.	A working mother can establish just as warm and secure a relationship with her children of elementary school age as a mother who does not work.	1	2	3	4	5
201.	It is much better for everyone involved if the man is the achiever outside the home and the woman takes care of the home and family.	1	2	3	4	5
202.	If a woman wants a career, she should space the children to suit the career or not have any children at all.	1	2	3	4	5
203.	Women are much happier if they stay at home and take care of their children.	1	2	3	4	5
204.	Young girls are entitled to as much independence as young boys.	1	2	3	4	5
205.	Sex seems to exist mainly for the man's pleasure.	1	2	3	4	5

		Strongly Agree	Agree	Depends on Circumstances Uncertain Don't Know (CIRCLE NUMBER)	Disagree	Strongly Disagree
206.	Women should be considered as seriously as men for jobs as executives or politicians.	1	2	3	4	5
207.	If anything serious happened to one of the children while the mother was working, she could never forgive herself.	1	2	3	4	5
208.	A woman's job should be kept open for her when she is having a baby.	1	2	3	4	5
209.	You usually find the happiest families are those with a large number of children.	1	2	3	4	5
210.	Many of those in women's rights organizations today seem to be unhappy misfits.	1	2	3	4	5
211.	There should be free child-care centers so that women could take jobs.	1	2	3	4	5
212.	The world population problem is serious.	1	2	3	4	5
213.	Canada's immigration laws are too lax and admit too many people unsuited to our culture.	1	2	3	4	5
213a.	Women in authority should have the right to fire men.	1	2	3	4	5

"We would like to record a few characteristics of your home".

214.	Do you have a colored T.V.?	Yes No	1 2
215.	Do you have a dishwasher?	Yes No	1 2
216.	Two or more cars?	Yes No	1 2
217.	What is the number of rooms in your home? (excluding bathrooms, clothes closets, pantries, halls and rooms solely used for business purposes)	____________	
218.	How many books would you say you have? 10, 25, 50, 100 ...	____________	

(INTERVIEWER: FILL IN)

219.	(IF R REFUSED TO GIVE TOTAL FAMILY INCOME) Estimate total family income for 1973.	____________ ESTIMATED INCOME	
220.	Respondent's cooperation was:	Very good Good Fair Poor	1 2 3 4
221.	Other persons present at interview were: (CIRCLE AS MANY AS NECESSARY) NO. OF PEOPLE PRESENT: ________	No one Children under 6 Older children Husband Other relatives Other adults	1 2 3 4 5 6
222.	Is this interview of questionable quality?	FILL IN Q 223 - - - Questionable quality SKIP TO COMMENTS - - Generally adequate SKIP TO COMMENTS - - High quality	1 2 3
223.	(IF "QUESTIONABLE QUALITY") Reason for this:	Spoke English poorly Evasive, suspicious Drunk, mentally disturbed Had poor hearing or vision Low intelligence Confused by frequent interruptions Bored or uninterested	1 2 3 4 5 6 7

TURN NOW TO BACK COVER

RECORD OF CALLS

Call Number	Date	Time of Call	Results (Household Absent, Address Dead, Refusal, Other...) (Completed, No One Eligible, Selected Person Unavailable)

COMMENTS: Please note anything essential to the interpretation of this interview.

Language of Interview? ____________________

Time at end of interview: _____ _________

Length of interview (omitting major interruptions): ____________________

____
Signature of Interviewer

____
Interviewer Number